SECTION 08 32 13 - SLIDING ALUMINUM-FRAMED GLASS DOORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes sliding aluminum-framed glass doors for exterior locations.

B. Related Sections:

1. Section 08 41 13 "Aluminum-Framed Entrances and Storefronts" for coordinating finish among aluminum fenestration units on the building exterior.
2. [**Section 08 71 00 "Door Hardware"**] for hardware not specified in this Section.

1.3 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 required by AAMA/WDMA/CSA 101/I.S.2/A440 for [**gateway performance**] [**optional performance grade**] [**gateway performance for both gateway performance and optional performance grade**].
2. Size indicated [**on Drawings**] [**in a schedule**].
3. <**Insert size**>.

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. Design Wind Loads: Determine design wind loads under conditions indicated according to [**ASCE/SEI 7**] <**Insert requirement**>.

    a. Basic Wind Speed: [**85 mph**] [**90 mph**] <**Insert value**>.
    b. Importance Factor: <**Insert factor**>.
    c. Exposure Category: [**B**] [**C**] [**D**].
    d. <**Insert factor**>.

2. 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.

C. Windborne-Debris Resistance: Provide sliding aluminum-framed glass doors capable of resisting impact from windborne debris, based on the pass/fail criteria as determined from testing sliding aluminum-frames glass doors identical to those specified, according to [**ASTM E 1886 and testing information in ASTM E 1996**] [**or**] [**AAMA 506**] <**Insert test method**> and requirements of authorities having jurisdiction.

D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): [**120 deg F, ambient; 180 deg F**] <**Insert temperature range**>, material surfaces.

1.4 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. Mullion details for fenestration combinations including reinforcement and stiffeners.
2. Joinery details.
3. Expansion provisions.
4. Flashing and drainage details.
5. Weather-stripping details.
6. Thermal-break details.
7. Glazing details.
8. 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.

D. Samples for Verification: For sliding aluminum-framed glass doors and components required, prepared on Samples of size indicated below:

1. Main Framing Member: 12-inch- long section with[**weather stripping,**] glazing bead and factory-applied color finish.
2. Hardware: Full-size units with factory-applied finish.
3. <**Insert component**>: <**Insert description**>.

E. Delegated-Design Submittal: For sliding aluminum-framed glass doors indicated to comply with performance requirements and design criteria, including analysis data signed and sealed

by the qualified professional engineer responsible for their preparation and used to determine the following:

1. Structural test pressures and design pressures from wind loads indicated.
2. Deflection limitations of glass framing systems.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified [**Installer**] [**manufacturer**] [**professional engineer**] [**and**] [**testing agency**].

B. Product Test Reports: Based on evaluation of comprehensive tests performed[**within the last four years**] by a qualified testing agency, for each class, grade, and size of sliding aluminum-framed glass door.[**Test results based on use of downsized test doors will not be accepted.**]

C. Field quality-control reports.

D. Warranty: Sample of special warranty.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For[**finishes,**] weather stripping, operable panels, and operating hardware to include in maintenance manuals.

1.7 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.

1. Installer's responsibilities include providing professional engineering services needed to assume engineering responsibility including preparation of data for sliding aluminum-framed glass doors, including Shop Drawings and Designated-Design Submittal, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.

C. Source Limitations: Obtain sliding aluminum-framed glass doors from single source from single manufacturer.

D. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of sliding aluminum-framed glass doors. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by

one or more methods including preconstruction testing, field testing, and in-service performance.

E. Product Options: Drawings indicate size, profiles, and dimensional requirements of sliding aluminum-framed glass doors and are based on the specific system indicated. Refer to Section 01 60 00 "Product Requirements." Do not modify size and dimensional requirements.

1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

F. 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**] [**WDMA**]-certified, sliding aluminum-framed glass doors with an attached label.

G. 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.

H. Glazing Publications: Comply with published recommendations of glass manufacturers and with GANA's "Glazing Manual" unless more stringent requirements are indicated.

I. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Build mockup for type(s) of sliding aluminum-framed glass door(s) indicated, in location(s) shown on Drawings.

J. Preinstallation Conference: Conduct conference at [**Project site**] <**Insert location**>.

1.8 PROJECT CONDITIONS

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

1.9 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. Water leakage or air infiltration.
d. Faulty operation of movable sash and hardware.
e. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
f. Deterioration of insulating glass[**and laminated glass**] as defined in Section 08 80 00 "Glazing."
g. <**Insert failure modes**>.

2. Warranty Period:

a. Sliding Door: [**Three**] [**Five**] <**Insert number**> years from date of Substantial Completion.
b. Glazing: [**10**] [**20**] <**Insert number**> years from date of Substantial Completion.
c. Metal Finish: [**Five**] [**10**] [**15**] <**Insert number**> years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide AA 3900 Thermal, by Kawneer North America, or a comparable product by one of the following:

1. Arcadia Architectural Products, Inc., Series 5500 Thermal.
2. EFCO Corporation, Series 5XPT Thermal.
3. Substitutions: See Section 01 25 00 - Substitution Procedures.

2.2 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. Reinforcing Members: Provide aluminum, nonmagnetic stainless steel, or nickel/chrome-plated steel reinforcing members that are noncorrosive for SC 3 severe service conditions and that comply with AAMA/WDMA/CSA 101/I.S.2/A440; provide sufficient strength to withstand design pressure indicated.

E. 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: Closed-cell elastomeric, preformed gaskets complying with ASTM C 509.
2. Weather-Stripping Material: Dense elastomeric gaskets complying with ASTM C 864.
3. Weather-Stripping Material: Manufacturer's standard system and materials complying with AAMA/WDMA/CSA 101/I.S.2/A440.

F. 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.

G. 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.

2.3 SLIDING DOOR <**Insert drawing designation**>

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: R[**15**] [**20**] [**25**] <**Insert grade**>.
2. Performance Class and Grade: LC[**25**] [**30**] [**35**] <**Insert grade**>.
3. Performance Class and Grade: C[**30**] [**35**] [**40**] <**Insert grade**>.
4. Performance Class and Grade: HC[**40**] [**45**] [**50**] <**Insert grade**>.
5. Performance Class and Grade: AW[**40**] [**45**] [**50**] <**Insert grade**>.
6. Performance Class and Grade: As indicated.
7. Performance Class: [**R**] [**LC**] [**C**] [**HC**] [**AW**].

B. Condensation Resistance: Provide sliding aluminum-framed glass doors with a minimum [**CRF when tested according to AAMA 1503**] [**CR determined according to NFRC 500**] of [**45**] [**52**] <**Insert value**>.

C. Thermal Transmittance: Provide sliding aluminum-framed glass doors with a maximum whole fenestration product U-factor indicated, when [**tested according to AAMA 1503**] [**determined according to ASTM E 1423**] [**determined according to NFRC 100**].

1. U-Factor: [**0.35**] [**0.40**] [**0.65**] <**Insert value appropriate to system of measure**> Btu/sq. ft. x h x deg F.

D. Solar Heat-Gain Coefficient (SHGC): Provide sliding aluminum-framed glass doors with a whole-fenestration product SHGC maximum of [**0.40**] [**0.55**] <**Insert value**>, determined according to NFRC 200.

E. Acoustical Performance: Provide sliding aluminum-framed glass doors with an [**STC**] [**OITC**] rating of [**29**] [**34**] <**Insert value**> when tested according to and determined by [**ASTM E 90 and ASTM E 413**] [**ASTM E 1425 and ASTM E 1332**], respectively.

F. 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..
2. Maximum Rate: 0.3 cfm/sq. ft. of area at an inward test pressure of 6.2 lbf/sq. ft..
3. Maximum Rate: <**Insert rate and test pressure**>.

G. 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. Test Pressure: 20 percent of positive design pressure, but not more than 12 lbf/sq. ft..
3. Test Pressure: <**Insert percent and pressure**>.

H. Forced-Entry Resistance: Comply with Performance Grade [**10**] <**Insert performance grade**> requirements when tested according to ASTM F 842.

I. Life-Cycle Testing: Tested according to and complying with AAMA/WDMA/CSA 101/I.S.2/A440.

J. Operating Force and Auxiliary (Durability) Tests: Tested according to and complying with AAMA/WDMA/CSA 101/I.S.2/A440.

2.4 GLAZING

A. Glass and Glazing System: Comply with Section 08 80 00 "Glazing" for safety glass, insulating-glass units, laminated glass, and glazing requirements applicable to glazed sliding aluminum-framed glass doors.

B. Glass <**Insert drawing designation**>: Comply with Section 08 80 00 "Glazing" for requirements applicable to safety glazing, insulating-glass units, and laminated glass units.

1. Clear, insulating-glass units.
2. Clear, insulating-glass units, with low-E coating pyrolytic on second surface or sputtered on second or third surface.
3. Clear, insulating-glass units, argon gas filled, with low-E coating pyrolytic on second surface or sputtered on second or third surface.
4. Clear, insulating-glass units; outer lite consisting of laminated glass unit with PVB interlayer for windborne-debris resistance.
5. Clear, insulating-glass units, with low-E coating pyrolytic on second surface or sputtered on second or third surface; outer lite consisting of laminated glass unit with PVB interlayer for windborne-debris resistance.
6. Monolithic laminated glass unit, with PVB interlayer, complying with windborne-debris resistance.
7. <**Insert glass type, description, and performance requirements**>.

C. Glazing System: [**Manufacturer's standard factory-glazing system that produces weathertight seal.**] [**Manufacturer's standard factory-glazing system that produces weathertight seal and complies with requirements for windborne-debris resistance.**] [**Manufacturer's standard factory-glazing system as indicated in Section 08 80 00 "Glazing."**] <**Insert glazing requirements.**>

2.5 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 [**solid bronze**] [**extruded, cast, or wrought aluminum**] [**die-cast zinc with special coating finish**] [**or**] [**nonmagnetic stainless steel**].

1. Hardware Finish: [**Manufacturer's standard**] [**Match aluminum appearance**] <**Insert finish**>.

B. Roller Assemblies: Provide movable panels with adjustable-height roller assemblies, complying with AAMA 906, consisting of self-lubricating, dual tandem [**nylon**] [**steel**] [**stainless-steel**] [**manufacturer's standard nylon or 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[**and to drain to the exterior**]; 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 [**multipoint**]locking device on each movable panel, lockable from the inside [**only**] [**and outside**]. Adjust locking device to allow unobstructed movement of the panel across adjacent panel in the direction indicated.

1. Keying System: [**All cylinders keyed alike**] [**Keyed to match other building entrances**] <**Insert instructions**>.

2.6 INSECT SCREENS

A. General: Design sliding aluminum-framed glass doors and hardware to accommodate screens in a tight-fitting, removable arrangement, with a minimum of exposed fasteners and latches. Fabricate insect screens to fully integrate with door frame. Locate screens on the [**inside**] [**outside**] of door and provide for each operable door panel. Comply with SMA 1201.

B. Insect Screen Frames: Manufacturer's standard [**extruded-aluminum**] [**or**] [**formed-tubular-aluminum**] members, with mitered or coped joints, concealed fasteners, adjustable rollers, and removable PVC or PE spline/anchor concealing edge of mesh.

1. Finish: [**Anodized aluminum**] [**Baked-on organic coating**] in manufacturer's standard color.
2. Finish: [**Anodized aluminum**] [**Baked-on organic coating**] in color selected by Architect from manufacturer's full range.
3. Finish: Manufacturer's standard.

C. Glass-Fiber Mesh Fabric: ASTM D 3656, [**18-by-14 or 18-by-16**] [**20-by-20 or 20-by-30**] count per sq. in. mesh of PVC-coated, glass-fiber threads; woven and fused to form a fabric mesh resistant to corrosion, shrinkage, stretch, impact damage, and weather deterioration.

1. Mesh Color: [**Charcoal gray**] [**Silver gray**] [**Aquamarine**] <**Insert color**>.

D. Aluminum Wire Fabric: 18-by-16 count per sq. in. mesh of 0.011-inch- diameter, coated aluminum wire.

1. Wire-Fabric Finish: [**Natural bright**] [**Charcoal gray**] [**Black**].

E. Hardware: [**Extruded, cast, or wrought aluminum**] [**die-cast zinc with special coating finish**] [**cadmium-plated steel**] [**zinc-plated steel**] [**or**] [**nonmagnetic stainless steel**].

1. Lock: Manufacturer's standard pull and keyless locking device on each movable panel, lockable from inside only. Adjust locking device to allow unobstructed movement of panel across adjacent panel in direction indicated.

2.7 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. Thermally Improved Construction: Fabricate sliding aluminum-framed glass doors with an integral, concealed, low-conductance thermal barrier; locate between exterior materials and door members exposed on interior side, and in a manner that eliminates direct metal-to-metal contact.

1. Provide thermal-break construction that has been in use for not less than three years and has been tested to demonstrate resistance to thermal conductance and condensation and to show adequate strength and security of glass retention.
2. Provide thermal barriers tested according to AAMA 505; determine the allowable design shear flow per the appendix in AAMA 505.
3. Provide hardware with low conductivity, or provide nonmetallic material for hardware bridging thermal breaks at frame.

D. Weather Stripping: Provide operable panels with a double row of sliding weather stripping in horizontal rails and [**single-**] [**or**] [**double-**]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.

E. Weep Holes: Provide weep holes and internal drainage passages to conduct infiltrating water to exterior.

F. Factory-Glazed Fabrication: Glaze sliding aluminum-framed glass doors in the factory where practical and possible for applications indicated. Comply with requirements in Section 08 80 00 "Glazing" and with AAMA/WDMA/CSA 101/I.S.2/A440.

G. Glazing Stops: Provide snap-on glazing stops coordinated with Section 08 80 00 "Glazing" and with glazing system indicated. Provide glazing stops to match panel frames.

2.8 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.

2.9 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, [**AA-M12C22A41, Class I, 0.018 mm**] [**AA-M12C22A31, Class II, 0.010 mm**] or thicker.

B. Color Anodic Finish: AAMA 611, [**AA-M12C22A42/A44, Class I, 0.018 mm**] [**AA-M12C22A32/A34, Class II, 0.010 mm**] or thicker.

1. Color: [**Light bronze**] [**Medium bronze**] [**Dark bronze**] [**Black**] <**Insert color**>.
2. Color: [**Match Architect's sample**] [**As selected by Architect from full range of industry colors and color densities**].

C. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

1. Color and Gloss: [**As indicated by manufacturer's designations**] [**Match Architect's sample**] [**As selected by Architect from manufacturer's full range**] <**Insert color and gloss**>.

D. High-Performance Organic Finish: Two-coat fluoropolymer finish complying with [**AAMA 2604**] [**AAMA 2605**] and containing not less than [**50**] [**70**] percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

1. Color and Gloss: [**As indicated by manufacturer's designations**] [**Match Architect's sample**] [**As selected by Architect from manufacturer's full range**] <**Insert color and gloss**>.

E. High-Performance Organic Finish: [**Three**] [**Four**]-coat fluoropolymer finish complying with AAMA 2605 and containing not less than [**50**] [**70**] percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

1. Color and Gloss: [**As indicated by manufacturer's designations**] [**Match Architect's sample**] [**As selected by Architect from manufacturer's full range**] <**Insert color and gloss**>.

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. Masonry Surfaces: Visibly dry and free of excess mortar, sand, and other construction debris.
2. Wood Frame Walls: Dry, clean, sound, well nailed, free of voids, and without offsets at joints. Ensure that nail heads are driven flush with surfaces in opening and within 3 inches of opening.

3. 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 flashings, vapor retarders, water and weather barriers, and other built-in components to ensure a coordinated, weathertight 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 wall flashing, vapor retarders, air barriers, water/weather barriers, and other adjacent construction.

C. Set sill members in bed of sealant or with gaskets, as indicated, to provide weathertight construction.

D. Install sliding aluminum-framed glass doors and components to drain condensation, water penetrating joints, and moisture migrating within doors to the exterior.

E. 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 FIELD QUALITY CONTROL

A. Testing Agency: [**Owner will engage**] [**Engage**] a qualified testing agency to perform tests and inspections.

B. Tests and Inspections:

1. Testing Methodology: Testing of sliding aluminum-framed glass doors for air penetration resistance and water resistance will be performed according to AAMA 502, [**Test Method A**] [**Test Method B**], by applying same test pressures required to determine compliance with AAMA/WDMA/CSA 101/I.S.2/A440.
2. Testing Extent: [**Three**] [**Three mockup**] <**Insert number or description**> sliding aluminum-framed glass doors as selected by Architect and a qualified independent testing and inspecting agency. Sliding doors shall be tested immediately after installation.

C. Sliding aluminum-framed glass door will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports according to AAMA 502. Testing agency will interpret test results and state in each report whether tested work complies with or deviates from requirements.

3.4 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. During construction, monitor sliding door surfaces adjacent to and below exterior concrete and masonry surfaces for presence of dirt, scum, alkaline deposits, stains, or other contaminants. If contaminating substances do contact sliding door surfaces, remove contaminants immediately according to manufacturer's written instructions.

H. Refinish or replace sliding aluminum-framed glass doors with damaged finishes.

I. Replace damaged components.

END OF SECTION 08 32 13