

SECTION 08410

ALUMINUM STOREFRONT AND SCREEN DOOR

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Aluminum-framed storefront, with vision glass.
- B. Aluminum Screen Door.
- C. Perimeter sealant.

1.2 RELATED REQUIREMENTS

- A. Section 08800 - Glazing: Glass and glazing accessories.

1.3 REFERENCE STANDARDS

- A. AAMA CW-10 - Care and Handling of Architectural Aluminum From Shop to Site; American Architectural Manufacturers Association; 2004.
- B. AAMA 501.2 - Field Check of Metal Storefronts, Curtain Walls, and Sloped Glazing Systems for Water Leakage; American Architectural Manufacturers Association; 2003 (part of AAMA 501).
- C. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; American Architectural Manufacturers Association; 1998.
- D. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2006.
- E. ASTM B 221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes [Metric]; 2007.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate with installation of other components that comprise the exterior enclosure.
- B. Preinstallation Meeting: Conduct a preinstallation meeting one week before starting work of this section; require attendance by all affected installers.

1.5 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, door hardware, internal drainage details.
- C. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related Work, expansion and contraction joint location and details, and field welding required.
- D. Design Data: Provide framing member structural and physical characteristics, engineering calculations, dimensional limitations.
- E. Samples: Submit three samples approx. 2 x 4 inches in size illustrating finished aluminum surface.
- F. Warranty: Submit manufacturer warranty and ensure forms have been completed in the Owner's name and registered with manufacturer.

1.6 QUALITY ASSURANCE

- A. Designer Qualifications: Design structural support framing components under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed at Dahlonega, Georgia.
- B. Manufacturer and Installer Qualifications: Company specializing in manufacturing aluminum glazing systems with minimum five years of documented experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Handle products of this section in accordance with AAMA CW-10.
- B. Protect finished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond to aluminum when exposed to sunlight or weather.

1.8 FIELD CONDITIONS

- A. Do not install sealants when ambient temperature is less than 40 degrees F. Maintain this minimum temperature during and 48 hours after installation.

1.9 WARRANTY

- A. See Section 01780 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within a five year period after Date of Substantial Completion.
- C. Provide five year manufacturer warranty against failure of glass seal on insulating glass units, including interpane dusting or misting. Include provision for replacement of failed units.
- D. Provide five year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Storefront
 - 1. Basis of Design: Kawneer Company, Inc.; Product Tri-Fab 451.
 - 2. Other Acceptable Manufacturers, subject to compliance with requirements:
 - a. Tubelite, Inc.: www.tubeliteinc.com
 - b. United States Aluminum Corp: www.usalum.com.
 - c. Vistawall Architectural Products: www.vistawall.com.
 - d. YKK Corp: www.ykk.com
 - e. Substitutions: See Section 01600 - Product Requirements.
- A. Aluminum Screen Door
 - 1. Basis of Design: Cline Aluminum Doors, Inc.
 - a. Product : Series 400SE
 - 2. Other Acceptable Manufacturers, subject to compliance with requirements:
 - a. Substitutions: See Section 01600 – Product Requirements

2.2 COMPONENTS

- A. Aluminum-Framed Storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices.
 - 1. Finish: Class I natural anodized.
 - 2. Color: As selected from manufacturer's standards.
- B. Aluminum Framing Members: Tubular aluminum sections, thermally broken with interior section insulated from exterior, drainage holes and internal weep drainage system.
 - 1. Glazing stops: Flush.
 - 2. Cross-Section: 2 x 4 1/2 inch nominal dimension.
- C. Doors: Glazed aluminum.
 - 1. Thickness: 1-3/4 inches.
 - 2. Top Rail: 5 inches wide, minimum.
 - 3. Vertical Stiles: 5 inches wide, minimum.
 - 4. Bottom Rail: 10 inches wide, minimum.
 - 5. Door Screening: 18x16 mesh, 0.011" diameter aluminum screening
 - 6. Lower Screen Protective Grille: Expanded aluminum

2.3 MATERIALS

- A. Extruded Aluminum: ASTM B 221 (ASTM B 221M).
- B. Fasteners: Stainless steel.

- C. Glass: As specified in Section 08800.
- D. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration requirements.

2.4 FINISHES

- A. Class I Natural Anodized Finish: AAMA 611 AA-M12C22A41 Clear anodic coating not less than 0.7 mils thick.
- B. Touch-Up Materials: As recommended by coating manufacturer for field application.

2.5 HARDWARE

- A. Door Hardware: As specified in Section 08710.
- B. Weatherstripping: Wool pile, continuous and replaceable; provide on all doors.
- C. Sill Sweep Strips: Resilient seal type, retracting, of neoprene; provide on all doors.

2.6 FABRICATION

- A. Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.
- B. Accurately fit and secure joints and corners. Make joints flush, hairline, and weatherproof.
- C. Prepare components to receive anchor devices. Fabricate anchors.
- D. Coat concealed metal surfaces that will be in contact with cementitious materials or dissimilar metals with bituminous paint.
- E. Arrange fasteners and attachments to conceal from view.
- F. Reinforce components internally for door hardware.
- G. Reinforce framing members for imposed loads.
- H. Finishing: Apply factory finish to all surfaces that will be exposed in completed assemblies.
 - 1. Touch-up surfaces cut during fabrication so that no natural aluminum is visible in completed assemblies, including joint edges.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify dimensions, tolerances, and method of attachment with other work.
- B. Verify that wall openings and adjoining air and vapor seal materials are ready to receive work of this section.

3.2 INSTALLATION

- A. Install wall system in accordance with manufacturer's instructions.
- B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
- C. Provide alignment attachments and shims to permanently fasten system to building structure.
- D. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.
- E. Provide thermal isolation where components penetrate or disrupt building insulation.
- F. Install sill flashings. Turn up ends and edges; seal to adjacent work to form water tight dam.
- G. Coordinate attachment and seal of perimeter air and vapor barrier materials.
- H. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- I. Install glass in accordance with Section 08800, using glazing method required to achieve performance criteria.
- J. Install perimeter sealant in accordance with Section 07900.

- K. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.
- L. Do not block weep holes in storefront system with sealant.

3.3 TOLERANCES

- A. Maximum Variation from Plumb: 0.06 inches every 3 ft non-cumulative or 1/16 inches per 10 ft, whichever is less.
- B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch.

3.4 FIELD QUALITY CONTROL

- A. See Section 01400 - Quality Requirements, for independent testing and inspection requirements. Inspection will monitor quality of installation and glazing.
- B. Test installed storefront for water leakage in accordance with AAMA 501.2.

3.5 CLEANING

- A. Remove protective material from pre-finished aluminum surfaces.
- B. Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths. Take care to remove dirt from corners. Wipe surfaces clean.
- C. Remove excess sealant by method acceptable to sealant manufacturer.

3.7 PROTECTION

- A. Protect installed products from damage during subsequent construction.
- B. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.
- C. Protect finished work from damage.

END OF SECTION