

**SECTION 08 4313**  
**ALUMINUM-FRAMED STOREFRONTS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Aluminum-framed storefront, with vision glass.
- B. Aluminum doors and frames.
- C. Weatherstripping.
- D. Door hardware.

**1.02 RELATED REQUIREMENTS**

- A. Section 07 9200 - Joint Sealants: Sealing joints between frames and adjacent construction.
- B. Section 08 8000 - Glazing: Glass and glazing accessories.

**1.03 REFERENCE STANDARDS**

- A. AAMA CW-10 - Care and Handling of Architectural Aluminum From Shop to Site; 2015.
- B. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2012.
- C. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2013.
- D. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes [Metric]; 2013.

**1.04 ADMINISTRATIVE REQUIREMENTS**

- A. Preinstallation Meeting: Conduct a preinstallation meeting one week before starting work of this section; require attendance by all affected installers.

**1.05 SUBMITTALS**

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related Work, expansion and contraction joint location and details, and field welding required.
- C. Hardware Schedule: Complete itemization of each item of hardware to be provided for each door, cross-referenced to door identification numbers in Contract Documents.
- D. Warranty: Submit manufacturer warranty and ensure forms have been completed in Iowa Department of Transportation's name and registered with manufacturer.

**1.06 QUALITY ASSURANCE**

- A. Manufacturer and Installer Qualifications: Company specializing in manufacturing aluminum glazing systems with minimum 10 years of documented experience.

**1.07 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.

**1.08 WARRANTY**

- A. Correct defective Work within a five year period after Date of Substantial Completion.
- B. 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.

## **PART 2 PRODUCTS**

### **2.01 BASIS OF DESIGN -- SWINGING DOORS**

### **2.02 MANUFACTURERS**

- A. Aluminum-Framed Storefront and Doors:
  - 1. Coral Architectural Products, a division of Coral Industries, Inc.; \_\_\_\_\_: [www.coralap.com](http://www.coralap.com).
  - 2. C.R. Laurence Co., Inc; U.S. Aluminum: [www.crl-arch.com](http://www.crl-arch.com).
  - 3. EFCO Corporation: [www.efcocorp.com](http://www.efcocorp.com).
  - 4. Kawneer North America: [www.kawneer.com](http://www.kawneer.com).
  - 5. Tubelite, Inc: [www.tubeliteinc.com](http://www.tubeliteinc.com).
  - 6. Trulite Glass & Aluminum Solutions, LLC; CG501, 2-1/2 by 5 inch, wind-borne-debris tested, insulating laminated glazing, with 200 series narrow-stile doors: [www.trulite.com](http://www.trulite.com).
  - 7. Substitutions: See Section 01 6000 - Product Requirements.

### **2.03 STOREFRONT**

- A. Aluminum-Framed Storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices.
  - 1. Glazing Position: Centered (front to back).
  - 2. Finish: Superior performing organic coatings.
    - a. Factory finish all surfaces that will be exposed in completed assemblies.
    - b. Touch-up surfaces cut during fabrication so that no natural aluminum is visible in completed assemblies, including joint edges.
  - 3. Finish Color: Dark bronze.
  - 4. Fabrication: Joints and corners flush, hairline, and weatherproof, accurately fitted and secured; prepared to receive anchors and hardware; fasteners and attachments concealed from view; reinforced as required for imposed loads.
  - 5. Construction: Eliminate noises caused by wind and thermal movement, prevent vibration harmonics, and prevent "stack effect" in internal spaces.
  - 6. System Internal Drainage: Drain to the exterior by means of a weep drainage network any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system.
  - 7. Expansion/Contraction: Provide for expansion and contraction within system components caused by cycling temperature range of 170 degrees F over a 12 hour period without causing detrimental effect to system components, anchorages, and other building elements.
  - 8. Movement: Allow for movement between storefront and adjacent construction, without damage to components or deterioration of seals.
  - 9. Perimeter Clearance: Minimize space between framing members and adjacent construction while allowing expected movement.

### **2.04 COMPONENTS**

- A. Aluminum Framing Members: Tubular aluminum sections, drainage holes and internal weep drainage system.
  - 1. Glazing Stops: Flush.
- B. Glazing: As specified in Section 08 8000.
  - 1. For Interior Framing: Type G2.
- C. Swing Doors: Flush aluminum.
  - 1. Thickness: 1-3/4 inches.
  - 2. Top Rail: 4 inches wide.
  - 3. Vertical Stiles: 1-3/4 inches wide.
  - 4. Bottom Rail: 4 inches wide.
  - 5. Glazing Stops: Square.
  - 6. Finish: Same as storefront.

## **2.05 MATERIALS**

- A. Extruded Aluminum: ASTM B221 (ASTM B221M).
- B. Fasteners: Stainless steel.
- C. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration requirements.

## **2.06 FINISHES**

- A. Class I Color Anodized Finish: AAMA 611 AA-M12C22A42 Integrally colored anodic coating not less than 0.7 mils thick.

## **2.07 HARDWARE**

- A. For each door, include weatherstripping, sill sweep strip, and threshold.
- B. Other Door Hardware: Storefront manufacturer's standard type to suit application.
  - 1. Finish on Hand-Contacted Items: brushed aluminum.
  - 2. For each door, include pivots, pull handle, exit device, narrow stile handle latch, and closer.

## **PART 3 EXECUTION**

### **3.01 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.

### **3.02 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. Where fasteners penetrate sill flashings, make watertight by seating and sealing fastener heads to sill flashing.
- H. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- I. Set thresholds in bed of sealant and secure.
- J. Install hardware using templates provided.
- K. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.

### **3.03 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.

### **3.04 ADJUSTING**

- A. Adjust operating hardware and sash for smooth operation.

### **3.05 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.

**END OF SECTION**

## SECTION 08 8000

### GLAZING

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Glazing units.
- B. Glazing compounds and accessories.

##### 1.02 RELATED REQUIREMENTS

- A. Section 08 4313 - Aluminum-Framed Storefronts: Glazing furnished as part of storefront assembly.

##### 1.03 REFERENCE STANDARDS

- A. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers; 2005 (Reapproved 2011).
- B. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2014.
- C. ASTM C1036 - Standard Specification for Flat Glass; 2011e1.
- D. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2012.
- E. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2013.
- F. GANA (SM) - GANA Sealant Manual; Glass Association of North America; 2008.

##### 1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data on Glazing Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors.

##### 1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing the work of this section with minimum 5 years documented experience.

#### PART 2 PRODUCTS

##### 2.01 MANUFACTURERS

- A. Float Glass Manufacturers:
  - 1. AGC Glass Company North America, Inc.: [www.us.agc.com](http://www.us.agc.com).
  - 2. Cardinal Glass Industries: [www.cardinalcorp.com](http://www.cardinalcorp.com).
  - 3. Guardian Industries Corp.: [www.sunguardglass.com](http://www.sunguardglass.com).
  - 4. Pilkington North America Inc.: [www.pilkington.com/na](http://www.pilkington.com/na).
  - 5. PPG Industries, Inc.: [www.ppgideascape.com](http://www.ppgideascape.com).
  - 6. Substitutions: Refer to Section 01 6000 - Product Requirements.

##### 2.02 GLASS MATERIALS

- A. Float Glass: Provide float glass based glazing unless noted otherwise.
  - 1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality-Q3.
  - 2. Heat-Strengthened and Fully Tempered Types: ASTM C1048, Kind HS and FT.

##### 2.03 GLAZING UNITS

- A. Type G-2 - Monolithic Interior Vision Glazing:
  - 1. Applications: Interior glazing unless otherwise indicated.
  - 2. Glass Type: Annealed float glass.
  - 3. Tint: Clear.
  - 4. Thickness: 1/4 inch, nominal.

## **2.04 GLAZING COMPOUNDS**

- A. Type GC-2 - Butyl Sealant: Single component; ASTM C920, Grade NS, Class 12-1/2, Uses M and A, Shore A hardness of 10 to 20; black color.

## **2.05 ACCESSORIES**

- A. Setting Blocks: Silicone, with 80 to 90 Shore A durometer hardness; ASTM C864 Option II. Length of 0.1 inch for each square foot of glazing or minimum 4 inch x width of glazing rabbet space minus 1/16 inch x height to suit glazing method and pane weight and area.
- B. Glazing Tape, Back Bedding Mastic Type: Preformed, butyl-based, 100 percent solids compound with integral resilient spacer rod applicable to application indicated; 5 to 30 cured Shore A durometer hardness; coiled on release paper; black color.

## **PART 3 EXECUTION**

### **3.01 VERIFICATION OF CONDITIONS**

- A. Verify that openings for glazing are correctly sized and within tolerances, including those for size, squareness, and offsets at corners.
- B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and support framing is ready to receive glazing system.

### **3.02 PREPARATION**

- A. Clean contact surfaces with appropriate solvent and wipe dry within maximum of 24 hours before glazing. Remove coatings that are not tightly bonded to substrates.
- B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.
- C. Prime surfaces scheduled to receive sealant where required for proper sealant adhesion.

### **3.03 INSTALLATION, GENERAL**

- A. Install glazing sealants in accordance with ASTM C1193, GANA Sealant Manual, and manufacturer's instructions.

### **3.04 SCHEDULES**

- A. Aluminum Entrance Window Glazing: Glass Type G2, install glass using wet/dry method with Type GC-2 glazing compound.
- B. Steel Door Glazing:
  - 1. Interior: Glass Type G2, 1/4 inch thick, install glass using wet method with Type GC-2 glazing compound.

**END OF SECTION**