

**DIVISION 08**

**OPENINGS**

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

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Weatherstripping.
- B. Perimeter sealant.
- C. Aluminum Brake Metal.
- D. Glazing Compounds and Accessories

**1.02 RELATED REQUIREMENTS**

- B. Section 07 9005 - Joint Sealers: Perimeter sealant and back-up materials.

**1.03 REFERENCE STANDARDS**

- A. AAMA CW-10 - Care and Handling of Architectural Aluminum From Shop to Site; American Architectural Manufacturers Association; 2012.
- B. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels; 2010.
- C. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2014.
- D. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.
- E. ASTM E283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2004 (Reapproved 2012).
- F. ASTM E 331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2009.
- G. IBC 2012; International Building Code, 2012

**1.04 PERFORMANCE REQUIREMENTS**

- A. Air Infiltration: Limit air infiltration through assembly to 0.06 cu ft/min/sq ft of wall area, measured at a reference differential pressure across assembly of 1.57 psf as measured in accordance with ASTM E 283.
- B. 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.
- C. Air and Vapor Seal: Maintain continuous air barrier and vapor retarder throughout assembly, primarily in line with inside pane of glass and inner sheet of infill panel and heel bead of glazing compound.

**1.05 SUBMITTALS**

- A. See Section 01 3323 - Submittals, for submittal procedures.
- B. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, 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.

**1.06 QUALITY ASSURANCE**

- A. Manufacturer and Installer: Company specializing in manufacturing aluminum glazing systems.

### 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 which bond to aluminum when exposed to sunlight or weather.

### 1.08 ENVIRONMENTAL REQUIREMENTS

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

### 1.09 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within a two year period after Date of Substantial Completion.
- C. 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

### 2.01 MANUFACTURERS

- A. Kawneer; Product Tri-Fab CG (Center Glazed).
  - 1. Tri-Fab 451-T, center glazed, screw spline for 1 inch glazing
- B. Other Acceptable Manufacturers:
  - 1. United States Aluminum Corp: [www.usalum.com](http://www.usalum.com).
  - 2. Vistawall Architectural Products: [www.vistawall.com](http://www.vistawall.com)
  - 3. YKKAP American Inc.: [www.ykkap.com](http://www.ykkap.com)
  - 4. Manko Window Systems, Inc.: [www.mankowindows.com](http://www.mankowindows.com)
  - 5. EFCO Corporation: [www.efcocorp.com](http://www.efcocorp.com)

### 2.02 COMPONENTS

- A. Aluminum Brake Metal
  - 1. All aluminum brake metal called out on drawings shall be provided by aluminum frame installer.
  - 2. Thickness: 20 gauge aluminum, if not noted otherwise in the drawings.
  - 3. Finish: Dark Bronze #40. – **Design Intent is to match existing frame finish.**

### 2.03 MATERIALS

- A. Extruded Aluminum: ASTM B221 (ASTM B221M).
- B. Sheet Aluminum: ASTM B209 (ASTM B209M).
- C. Fasteners: Stainless steel.
- D. Exposed Flashings: 0.032 inch thick aluminum sheet; finish to match framing members.
- E. Concealed Flashings: 0.018 inch thick galvanized steel.
- F. Perimeter Sealant: Type A specified in Section 07 9005 or as approved by architect.
- H. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration requirements.

### 2.04 GLAZING COMPOUNDS

- A. Manufacturers:
  - 1. Bostik, Inc: [www.bostik-us.com](http://www.bostik-us.com).
  - 2. GE Plastics: [www.geplastics.com](http://www.geplastics.com).
  - 3. Pecora Corporation: [www.pecora.com](http://www.pecora.com).
  - 4. Sonneborn, ChemRex, Inc.: [www.chemrex.com](http://www.chemrex.com)
- B. Polyurethane Sealant: Single component, chemical curing, non-staining, non-bleeding; ASTM C 920, Type S, Grade NS, Class 25, Uses M, A, and G; Shore A Hardness Range 20 to 35; color as selected.

1. Metal to brick, concrete, concrete block
- C. Silicone Sealant: Single component; neutral curing; capable of water immersion without loss of properties; non-bleeding, non-staining; ASTM C 920, Type S, Grade NS, Class 25, Uses M, A, and G; cured Shore A hardness of 15 to 25; color as selected.
  1. Glass to metal
  2. Glass to glass

## 2.05 GLAZING ACCESSORIES

- A. Setting Blocks: Neoprene, 80 to 90 Shore A durometer hardness, ASTM C 864 Option I. 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. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness, ASTM C 864 Option I. Minimum 3 inch long x one half the height of the glazing stop x thickness to suit application, self adhesive on one face.
- C. Glazing Tape: Preformed butyl compound with integral resilient tube spacing device; 10 to 15 Shore A durometer hardness; coiled on release paper; black color.
  1. Manufacturers:
    - a. Pecora Corporation: [www.pecora.com](http://www.pecora.com).
    - b. Saint-Gobain Performance Plastics: [www.plastics.saint-gobain.com](http://www.plastics.saint-gobain.com).

## 2.06 FINISHES

- A. Dark Bronze #44; AA-M12C22A44;.7 Mills Thick
- B. Touch-Up Materials: As recommended by coating manufacturer for field application.

## 2.07 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. Arrange fasteners and attachments to conceal from view.
- E. Reinforce components internally for door hardware.
- F. Reinforce framing members for imposed loads.
- G. Finishing: Apply factory finish to all surfaces that will be exposed in completed assemblies.

## 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 where fasteners penetrate sill flashings, make watertight by seating and sealing fastener heads to sill flashing.

- 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. Set thresholds in bed of mastic and secure.
- J. Install perimeter sealant in accordance with Section 07 9005.

**3.03 ERECTION 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 CLEANING AND PROTECTION**

- 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.
- D. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired
- E. Protect finished work from damage.

**END OF SECTION**