

**GUIDE SPECIFICATIONS – SECTION 084313**  
**ALUMINUM-FRAMED STOREFRONTS (450-3 Series)****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Aluminum-framed storefront, with vision glass.

**1.02 RELATED REQUIREMENTS**

- A. Section 084413 - Glazed Aluminum Curtain Walls.
- B. Section 085113 - Aluminum Windows: Operable sash within glazing system.
- C. Section 088000 - 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 609 & 610 - Cleaning and Maintenance Guide for Architecturally Finished Aluminum (Combined Document); 2015.
- C. AAMA 611 - Specification for Anodized Architectural Aluminum; 2024.
- D. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.
- E. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.
- F. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2021.

**1.04 ADMINISTRATIVE REQUIREMENTS**

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

**1.05 SUBMITTALS**

- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, door hardware, and 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. Samples: Submit samples illustrating finished aluminum surface, glass, infill panels, glazing materials.
- E. Design Data: Provide framing member structural and physical characteristics, engineering calculations, and dimensional limitations.
- F. Hardware Schedule: Complete itemization of each item of hardware to be provided for each door, cross-referenced to door identification numbers in Contract Documents.
- G. Installer's qualification statement.
- H. Warranty: Submit manufacturer's sample warranty for framing systems being used.

**1.06 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with not less than five (5) years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of type specified and with at least three (3) 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. Do not use adhesive papers or sprayed coatings that bond to aluminum when exposed to sunlight or weather.

**1.08 FIELD CONDITIONS**

- A. Install sealants per sealant manufacturer's recommendations.

**1.09 WARRANTY**

- A. See Section 017800 - Closeout Submittals for additional warranty requirements.

- B. Product: Submit a written warranty, executed by the window manufacturer, for a period of 2 years from the date of manufacture, against defective materials or workmanship, including substantial non-compliance with applicable specification requirements and industry standards, which results in premature failure of the storefronts, finish, glass, or parts, outside of normal wear.
  - 1. In the event that storefronts or components are found defective, manufacturer will repair or provide replacements without charge at manufacturer's option.
  - 2. Warranty for all components must be direct from the manufacturer (non-pass through) and non-prorated for the entire term. In non-residential occupancy, this warranty may be extended directly to the owner in its entirety and passed on to the first subsequent owner, only through its length.
- C. Installation: Submit a written warranty, executed by the window installer, for a period of 2 years from the date of substantial completion, against defective materials or workmanship, including substantial non-compliance with applicable specification requirements, which result in premature failure.
  - 1. In the event that installation of windows or components is found to be defective, installer will repair or provide replacements without charge at the installer's option.
- D. See product limited warranty and remedy document for additional information.

## **PART 2 PRODUCTS**

### **2.01 MANUFACTURERS**

- A. Aluminum-Framed Storefronts:
  - 1. Manko Window Systems, Inc; [www.mankowindowsystems.com](http://www.mankowindowsystems.com)

### **2.02 BASIS OF DESIGN -- FRAMING FOR INTERIOR MONOLITHIC GLAZING**

- A. Center-Set Style, Non-Thermal:
  - 1. Basis of Design: Manko Window Systems, Inc; 450-3 Series, Center Glazed – 2" x 4-1/2" – Non-Thermal Storefront
- B. Substitutions: See Section 016000 - Product Requirements.
  - 1. For any product not identified as "Basis of Design", submit information as specified for substitutions.

### **2.03 ALUMINUM-FRAMED STOREFRONT**

- A. Aluminum-Framed Storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices.
  - 1. Glazing Rabbet: For 1/2 inch (12 mm) – 11/16 inch (18mm) monolithic glazing.
  - 2. Finish: Class I Color Anodized or AAMA 2605 Fluoropolymer Paint: \_\_\_\_\_ (Specify)
    - a. Factory finish all surfaces that will be exposed in completed assemblies.
  - 3. Finish Color: \_\_\_\_\_ (Specify)
    - a. Factory finish 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.
    - c. Coat concealed metal surfaces that will be in contact with cementitious materials or dissimilar metals with bituminous paint.
  - 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. Movement: Allow for movement between storefront and adjacent construction, without damage to components or deterioration of seals.
  - 6. Perimeter Clearance: Minimize space between framing members and adjacent construction while allowing for 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: See Section 088000.
- C. Infill Panels: See Section 088000. (Optional)

### **2.05 MATERIALS**

- A. Extruded Aluminum: ASTM B221 (ASTM B221M).
- B. Sheet Aluminum: ASTM B209/B209M.
- C. Fasteners: Stainless steel, type as required or recommended by storefront manufacturer.
- D. Concealed Flashings: Stainless steel, 26 gauge, 0.0187 inch (0.48 mm) minimum thickness.
- E. Concealed Flashings: Sheet aluminum, 26 gauge, 0.017 inch (0.43 mm) minimum thickness.

- F. Sill Flashing Sealant: Elastomeric, silicone or polyurethane, compatible with flashing material.
- G. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration requirements supplied by manufacturer.
- H. Glazing Accessories: See Section 088000.

## **2.06 FINISHES**

- A. Class I Natural Anodized Finish: AAMA 611 AA-M12C22A41 Clear anodic coating not less than 0.7 mils (0.018 mm) thick.
- B. Class II Natural Anodized Finish: AAMA 611 AA-M12C22A31 Clear anodic coating not less than 0.4 mils (0.01 mm) thick.
- C. Class I Color Anodized Finish: AAMA 611 AA-M12C22A42 Integrally colored anodic coating not less than 0.7 mils (0.018 mm) thick.
- D. Class I Color Anodized Finish: AAMA 611 AA-M12C22A44 Electrolytically deposited colored anodic coating not less than 0.7 mils (0.018 mm) thick.
- E. Fluoroethylene Vinyl Ether (FEVE) Coating: Superior performing resin-based organic powder coatings system complying with AAMA 2605; single coat applications when applied to aluminum with dry film thickness (DFT) of 2 to 3 mil, 0.002 to 0.003 inch (0.051 to 0.076 mm); color and gloss as scheduled.
  - 1. Apply coating to exposed metal surfaces with proper preparation and pretreatment in accordance with resin manufacturer's instructions.
- F. Color: As selected by Architect from manufacturer's standard range.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify dimensions, tolerances, and method of attachment with other work.
- B. Verify that storefront wall openings and adjoining water-resistive and/or air barrier 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. Where fasteners penetrate sill flashings, make watertight by seating and sealing fastener heads to sill flashing.
- F. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- G. Install glass and infill panels using glazing method required to achieve performance criteria; see Section 088000.
- H. 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 inch per 3 feet (1.5 mm per m) non-cumulative.
- B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/16 inch.

### **3.04 FIELD QUALITY CONTROL**

- A. See Section 014000 - Quality Requirements for general testing and inspection requirements.
- B. Repair or replace storefront components that have failed designated field testing, and retest to verify performance complies with specified requirements.

### **3.05 CLEANING**

- A. Remove protective material from pre-finished aluminum surfaces.
- B. Upon completion of installation, thoroughly clean aluminum surfaces in accordance with AAMA 609 & 610.

## **END OF SECTION**

*[DISCLAIMER: Manko Window Systems, Inc. takes no responsibility for product selection or application, including, but not limited to, compliance with building codes, safety codes, laws, merchantability or fitness for a particular purpose, and further disclaims all liability for the use, in whole or in part, of these guide specifications in preparation of project specifications and/or other documents. Guide Specifications are subject to change at any time, without notice, and at Manko Window Systems, Inc. sole discretion.]*