

## SECTION 08443

### INTERIOR ALUMINUM STOREFRONT

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. Section Includes: Aluminum Storefront: Interior application only.
  - 1. YKK AP Series YES 45 FS Storefront System (Monolithic Glazing)
  - 2. Kawneer Tri-Fab 450/451
- B. Related Sections:
  - 1. Sealants: Refer to Division 7 Joint Treatment Section for sealant requirements.
  - 2. Glass and Glazing: Refer to Section 08800 Glass and Glazing for glass and glazing requirements.
  - 3. Single Source Requirement: All products listed below shall be by the same manufacturer.
    - a. Section 08441 Curtain Wall
    - d. Section 08442 Exterior Storefront

##### 1.02 SYSTEM PERFORMANCE DESCRIPTION

- A. Performance Requirements: Provide aluminum storefront systems that comply with performance requirements indicated, as demonstrated by testing manufacturer's assemblies in accordance with test method indicated.
  - 1. Wind Loads: Storefront system shown is intended for use on interior application only.
  - 2. Deflection: Maximum allowable deflection in any member when tested in accordance with ASTM E 330-90 with allowable stress in accordance with AA Specifications for Aluminum Structures.
    - a. Without Horizontals:  $L/175$  or  $3/4"$  (19.1mm) maximum.
    - b. With Horizontals:  $L/175$  or  $L/240 + 1/4"$  (6.4mm) for spans greater than 13'-6" (4.1m) but less than 40'-0" (12.2m).
  - 3. Thermal Movement: Provide for thermal movement caused by 180 degrees F. (82.2 degrees C.) surface temperature, without causing buckling stresses on glass, joint seal failure, undue stress on structural elements, damaging loads on fasteners, reduction of performance, or detrimental effects.
  - 4. Air Infiltration: When tested in accordance with ASTM E 283-91 at differential static pressure of 6.24 PSF (299 Pa), completed storefront systems shall have maximum allowable infiltration of 0.02 CFM/FT<sup>2</sup> (0.37 m<sup>3</sup>/h·m<sup>2</sup>).
  - 5. Water Infiltration: No uncontrolled water other than condensation on indoor face of any component when tested in accordance with ASTM E 331-93 at test pressure differential of 10 PSF (479 Pa).

##### 1.03 SUBMITTALS

- A. General: Prepare, review, approve, and submit specified submittals in accordance with "Conditions of the Contract" and Division 1 Submittals Sections. Product data, shop drawings, samples, and similar submittals are defined in "Conditions of the Contract."
- B. Product Data: Submit product data for each type of storefront series specified.
- C. Substitutions: Whenever substitute products are to be considered, supporting technical data, samples, and test reports must be submitted ten (10) working days prior to bid date in order to make a valid comparison.

- D. Shop Drawings: Submit shop drawings showing layout, profiles, and product components, including anchorage, accessories, finish colors and textures.
- E. Samples: Submit verification samples for colors on actual aluminum substrates indicating full color range expected in installed system.
- F. Quality Assurance / Control Submittals:
  - 1. Test Reports: Submit certified test reports showing compliance with specified performance characteristics and physical properties.
  - 2. Installer Qualification Data: Submit installer qualification data.
- G. Closeout Submittals:
  - 1. Warranty: Submit warranty documents specified herein.
  - 2. Project Record Documents: Submit project record documents for installed materials in accordance with Division 1 Project Closeout (Project Record Documents) Section.

#### **1.04 QUALITY ASSURANCE**

- A. Qualifications:
  - 1. Installer Qualifications: Installer experienced (as determined by contractor) to perform work of this section who has specialized in the installation of work similar to that required for this project. If requested by Owner, submit reference list of completed projects.
  - 2. Manufacturer Qualifications: Manufacturer capable of providing field service representation during construction process.
- B. Mock-Ups (Field Constructed): Install at project site a job mock-up using acceptable products and manufacturer approved installation methods. Obtain Owner's and Architect's acceptance of finish color, and workmanship standard.
  - 1. Mock-Up Size:
  - 2. Maintenance: Maintain mock-up during construction for workmanship comparison; remove and legally dispose of mock-up when no longer required.
  - 3. Incorporation: Mock-up may be incorporated into final construction upon Owner's approval.
- C. Pre-Installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer's installation instructions, and manufacturer's warranty requirements.

#### **1.05 PROJECT CONDITIONS / SITE CONDITIONS**

- A. Field Measurements: Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements, fabrication schedule with construction progress to avoid construction delays.

#### **1.06 WARRANTY**

- A. Project Warranty: Refer to "Conditions of the Contract" for project warranty provisions.

- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under the Contract Documents.
1. Beneficiary: Issue warranty in the legal name of the project Owner.
  2. Warranty Period: Manufacturer's Standard Warranty commencing on Date of Substantial Completion.

## **PART 2 PRODUCTS**

### **2.01 MANUFACTURERS (Acceptable Manufacturers/Products)**

- A. Acceptable Manufacturers:
1. Storefront System: YKK AP YES 45 FS Storefront System.  
YKK AP America Inc.  
7680 The Bluffs, Suite 100  
Austell, GA 30168  
Telephone: (678) 838-6000
  2. Kawneer:  
Kawneer Company, Inc.  
555 Guthridge Court,  
Technology Park/Atlanta,  
Norcross, GA 30092  
Telephone: (770) 449-5555
- B. Storefront Framing System:
1. Description: Center set, flush glazed; jambs and vertical mullions continuous; head, sill, intermediate horizontal attached by screw spline joinery.
  2. Components: Manufacturer's standard extruded aluminum expansion mullions, 90-degree corner posts, three-way corner post, entrance door framing, and indicated shapes.

### **2.02 MATERIALS**

- A. Extrusions: ASTM B 221 (ASTM B 221M), 6063-T5 Aluminum Alloy.
- B. Aluminum Sheet:
1. Anodized Finish: ASTM B 209 (ASTM B 209M), 5005-H14 Aluminum Alloy, 0.050" (1.27 mm) minimum thickness.

### **2.03 ACCESSORIES**

- A. Manufacturer's Standard Accessories:
1. Fasteners: Zinc plated steel concealed fasteners; Hardened aluminum alloys or AISI 300 series stainless steel exposed fasteners, countersunk, finish to match aluminum color.
  2. Sealant: Non-skinning type, AAMA 803.3
  3. Glazing: Setting blocks, edge blocks, and spacers in accordance with ASTM C 864, shore durometer hardness as recommended by manufacturer; Glazing gaskets in accordance with ASTM C 864.

### **2.04 RELATED MATERIALS (Specified In Other Sections)**

- A. Glass: Refer to Section 08800 Glass and Glazing for glass materials.

## 2.05 FABRICATION

- A. Shop Assembly: Fabricate and assemble units with joints only at intersection of aluminum members with uniform hairline joints; rigidly secure and sealed in accordance with manufacturer's recommendations.
1. Hardware: Drill and cut to template for hardware. Reinforce frames and door stiles to receive hardware in accordance with manufacturer's recommendations.
  2. Welding: Conceal welds on aluminum members in accordance with AWS recommendations or methods recommended by manufacturer. Members showing welding bloom or discoloration on finish or material distortion will be rejected.

## 2.06 FINISHES AND COLORS

- A. Anodized Finish: YKK AP America Anodized Plus® Finish:
1. Clear: YKK AP YS1N with clear protective composite coating.

## PART 3 EXECUTION

### 3.01 MANUFACTURER'S INSTRUCTIONS / RECOMMENDATIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, installation instructions, and product carton instructions. Latest Installation Manual can be found at [www.ykkap.com](http://www.ykkap.com).

### 3.02 EXAMINATION

- A. Site Verification of Conditions: Verify conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer's instructions. Storefront Contractor shall adjust his system to compensate for adjacent elements (steel, CMU, concrete slabs, aluminum panels, etc.). Proper and professional fit and finish are the Storefront Installer's responsibility.

### 3.03 PREPARATION

- A. Adjacent Surfaces Protection: Protect adjacent work areas and finish surfaces from damage during product installation.
1. Aluminum Surface Protection: Protect aluminum surfaces from contact with lime, mortar, cement, acids, and other harmful contaminants.

### 3.04 INSTALLATION

- A. General: Install manufacturer's system in accordance with shop drawings, and within specified tolerances.
1. Protect aluminum members in contact with masonry, steel, concrete, or dissimilar materials using nylon pads or bituminous coating.
  2. Shim and brace aluminum system before anchoring to structure.
  3. Provide sill flashing at exterior storefront systems. Extend extruded flashing continuous with splice joints; set in continuous beads of sealant.
  4. Verify storefront system allows water entering system to be collected in gutters and wept to exterior. Verify metal joints are sealed in accordance with manufacturers installation instructions.
  5. Locate expansion mullions where indicated on reviewed shop drawings.
  6. Seal metal to metal storefront system joints using sealant recommended by system manufacturer.
  7. Any continuous joints must be uniform throughout the run.

8. Any joint greater than 1/8" will be rejected without question.

### **3.05 FIELD QUALITY CONTROL**

- A. Manufacturer's Field Services: Upon request, provide manufacturer's field service consisting of site visit for inspection of product installation in accordance with manufacturer's instructions.
- B. Field Test: Conduct field test to determine watertightness of storefront system. Conduct test in accordance with AAMA 501.2-03.

### **3.06 ADJUSTING AND CLEANING**

- A. Adjusting: Adjust swing doors for operation in accordance with manufacturer's recommendations.
- B. Cleaning: The General Contractor shall clean installed products in accordance with manufacturer's instructions prior to owner's acceptance and remove construction debris from project site. Legally dispose of debris.
- C. Protection: The General Contractor shall protect the installed product's finish surfaces from damage during construction.

END OF SECTION 08443