SECTION 08410

ALUMINUM ENTRANCES AND STOREFRONTS

1 PART 1 GENERAL

1.1 SUMMARY

A. Section Includes: Kawneer Architectural Aluminum Storefront Systems, including perimeter trims, stools, accessories, shims and anchors, and perimeter sealing of storefront units.

1. Types of Kawneer Aluminum Storefront Systems include:

a. EnCORE® Thermal Framing System – 1-3/4" x 4-1/2" nominal dimension; Thermally improved; Center Glazed; Punched Opening (Type B) Fabrication..

B. Related Sections:

1. Division 7 Section "Vapor Barriers" between glazed wall systems and adjacent construction

2. Division 7 Section "Fire Stopping"

3. Division 7 Section "Joint Sealants" for joint sealants installed as part of aluminum entrance and storefront systems

4. Division 8 Section "Aluminum Terrace Doors and Frames"

5. Division 8 Section "Sliding Doors"

6. Division 8 Section "Aluminum Entrances and Storefronts"

7. Division 8 Section "Automatic Entrance Doors"

8. Division 8 Section "Sliding Aluminum Storefronts"

9. Division 8 Section "Aluminum Windows"

10. Division 8 Section "Finish Hardware"

11. Division 8 Section "Glass and Glazing"

12. Division 8 Section "Glazed Aluminum Curtain Walls"

13. Division 8 Section "Slope Glazing"

1. 2 REFERENCES (INDUSTRY STANDARDS)

1.3 SYSTEM DESCRIPTION

A. Storefront System Performance Requirements:

1. Wind loads: Provide framing system; include anchorage, capable of withstanding wind load design pressures of (____) lbs./sq. ft. inward and (____) lbs./sq. ft. outward. The design pressures are based on the 2003 International Building Code.

2. Air Infiltration: The test specimen shall be tested in accordance with ASTM E 283. Air infiltration rate shall not exceed 0.06 cfm/ft^2 at a static air pressure differential of 6.24 psf.

3. Water Resistance: The test specimen shall be tested in accordance with ASTM E 331. There shall be no leakage at a minimum static air pressure differential of 8 psf as defined in AAMA 501.

4. Uniform Load: A static air design load of 20 psf shall be applied in the positive and negative direction in accordance with ASTM E 330. There shall be no deflection in excess of L/175 of the span of any framing member. At a structural test load equal to 1.5 times the specified design load, no glass breakage or permanent set in the framing members in excess of 0.2% of their clear spans shall occur.

5. Thermal Transmittance (U-factor): When tested to AAMA Specification 1503, the thermal transmittance (U-factor) shall not be more than:

a. 0.46 (low-e)

6. Condensation Resistance (CRF): When tested to AAMA Specification 1503, the condensation resistance factor shall not be less than:

a. Glass to Exterior – 60_{frame} and 63_{glass} (low-e).

1.4 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. Quality Assurance/Control Submittals:

1. Test Reports: Submit certified test reports showing compliance with specified performance characteristics.

1.5 WARRANTY

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

B. Manufacturer's Product Warranty: Submit, for Owner's acceptance, manufacturer's warranty for entrance system as follows:

1. Warranty Period: Two (2) years from Date of Substantial Completion of the project provided however that the Limited Warranty shall begin in no event later than six months from date of shipment by Kawneer. In addition, welded door

corner construction shall be supported with a limited lifetime warranty for the life of the door under normal use.

1.6 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 and who is acceptable to product manufacturer.

2. Manufacturer Qualifications: Manufacturer capable of providing field service representation during construction, approving acceptable installer and approving application method.

B. Pre-Installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer's installation instructions, and manufacturer's warranty requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Ordering: Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.

B. Packing, Shipping, Handling and Unloading: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

C. Storage and Protection: Store materials protected from exposure to harmful weather conditions. Handle framing material and components to avoid damage. Protect framing material against damage from elements, construction activities, and other hazards before, during and after framing installation.

2 PART 2 PRODUCTS

2.1 MANUFACTURERS (ACCEPTABLE MANUFACTURERS/PRODUCTS)

A. Acceptable Manufacturers: Kawneer Company, Inc., or equal

1. Address: Kawneer Company, Inc.
555 Guthridge Court,
Technology Park/Atlanta,
Norcross, GA 30092
Telephone: 770 449 5555
Fax: 770 734 1560

2. Kawneer Aluminum Storefront Systems.

a. Kawneer Aluminum Storefront System
b. Series: EnCORE® Thermal Framing System
c. Framing Member Profile: 1-3/4" x 4-1/2" nominal dimension; Thermally improved; Center Glazed ; Punched Opening (Type B) Fabrication.
d. Finish/Color: As selected by Architect from complete line of color options.

2.2 MATERIALS

A. Aluminum (Framing and Components):

1. Material Standard: ASTM B 221; 6063-T6 alloy and temper

2. Member Wall Thickness: Each framing member shall provide structural strength to meet specified performance requirements.

3. Tolerances: Reference to tolerances for wall thickness and other cross-sectional dimensions of storefront members are nominal and in compliance with AA Aluminum Standards and Data.

2.3 ACCESSORIES

A. Fasteners: Where exposed, shall be Stainless Steel.

B. Gaskets: Glazing gaskets shall be extruded EPDM rubber.

C. Perimeter Anchors: Aluminum. When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action.

2.4 RELATED MATERIALS

A. Sealants: Refer to Joint Treatment (Sealants) Section.

B. Glass: Refer to Glass and Glazing Section.

2.5 FABRICATION

A. General:

1. Fabricate components per manufacturer's installation instructions and with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.

2. Accurately fit and secure joints and corners. Make joints flush, hairline and weatherproof.

3. Prepare components to receive anchor devices. Fabricate anchors.

4. Arrange fasteners and attachments to conceal from view.

2.6 FINISHES

A. Factory Finishing:

1. Kawneer Permanodic® AA-M12C22A44, AAMA 611, Architectural Class I Color Anodic Coating. As selected by architect from manufacturer’s complete color line.

2.7 SOURCE QUALITY CONTROL

A. Source Quality: Provide aluminum framing specified herein from a single source.

1. Building Enclosure System: When aluminum framing is part of a building enclosure system, including entrances, entrance hardware, windows, curtain wall system and related products, provide building enclosure system products from a single source manufacturer.

B. Fabrication Tolerances: Fabricate aluminum framing in accordance with framing manufacturer's prescribed tolerances.

3 PART 3 EXECUTION

3.1 EXAMINATION

A. Site Verification of Conditions: Verify substrate conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer's instructions. Verify openings are sized to receive storefront system and sill plate is level in accordance with manufacturer's acceptable tolerances.

1. 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.

3.2 INSTALLATION

A. General: Install framing system in accordance with manufacturer's instructions and AAMA storefront and entrance guide specifications manual.

1. Dissimilar Materials: Provide separation of aluminum materials from sources of corrosion or electrolytic action contact points.

2. Weathertight Construction: Install sill members and other members in a bed of sealant or with joint filler or gaskets, to provide weathertight construction. Coordinate installation with wall flashings and other components of construction.

3. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.

4. Provide alignment attachments and shims to permanently fasten system to building structure.

5. Align assembly plumb and level, free of warp and twist. Maintain assembly dimensional tolerances aligning with adjacent work.

B. Related Products Installation Requirements:

1. Sealants (Perimeter): Refer to Section 7 Joint Treatment (Sealants).

2. Glass: Refer to Section 8 Glass and Glazing.

a. Reference: ANSI Z97.1, CPSC 16 CFR 1201 and GANA Glazing Manual.

3.3 FIELD QUALITY CONTROL

A. Field Tests: Architect shall select storefront units to be tested as soon as a representative portion of the project has been installed, glazed, perimeter caulked and cured. Conduct tests for air infiltration and water penetration with manufacturer's representative present. Tests not meeting specified performance requirements and units having deficiencies shall be corrected as part of the contract amount.

1. Testing: Testing shall be performed by a qualified independent testing agency. Refer to Division 1 Testing Section for payment of testing and testing requirements. Testing Standard per AAMA 503, including reference to ASTM E 783 for Air Infiltration Test and ASTM E 1105 Water Infiltration Test.

a. Air Infiltration Tests: Conduct tests in accordance with ASTM E 783. Allowable air infiltration shall not exceed 1.5 times the amount indicated in the performance requirements or 0.09 cfm/ft^2, which ever is greater.
b. Water Infiltration Tests: Conduct tests in accordance with ASTM E 1105. No uncontrolled water leakage is permitted when tested at a static test pressure of two-thirds the specified water penetration pressure but not less than 6.24 psf.

B. Manufacturer's Field Services: Upon Owner's request, provide manufacturer's field service consisting of product use recommendations and periodic site visit for inspection of product installation in accordance with manufacturer's instructions.

3.4 PROTECTION AND CLEANING

A. Protection: Protect installed product's finish surfaces from damage during construction. Protect aluminum storefront system from damage from grinding and polishing compounds, plaster, lime, acid, cement, or other harmful contaminants.

B. Cleaning: Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance. Remove construction debris from project site and legally dispose of debris.

DISCLAIMER STATEMENT
This guide specification is intended to be used by a qualified construction specifier. The guide specification is not intended to be verbatim as project specification without appropriate modifications for the specific use intended. The guide specification must be used and coordinated with the procedures of each design firm, and the particular requirements of a specific construction project.

…END OF SECTION