

SECTION 08 41 13 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Aluminum-framed storefronts with glazing retained mechanically with gaskets on four sides.
 - a. Exterior storefront and entrances including transom over automatic entrance doors.
 - b. Interior storefront for the following areas:
 - 1) Interior vestibule doors and windows.
 - 2) Cooler and prep room windows.

1.2 PERFORMANCE REQUIREMENTS

- A. General: Provide aluminum-framed systems, including anchorage, capable of withstanding, without failure, the effects of the following:
1. Structural loads.
 2. Thermal movements.
 3. Movements of supporting structure indicated on Drawings including, but not limited to, story drift and deflection from uniformly distributed and concentrated live loads.
 4. Dimensional tolerances of building frame and other adjacent construction.
- B. Structural Loads:
1. Wind Loads: As indicated on Drawings.
- C. Structural-Test Performance: Systems tested according to ASTM E 330 as follows:
1. When tested at positive and negative wind-load design pressures, systems do not evidence deflection exceeding specified limits.
 2. When tested at 150 percent of positive and negative wind-load design pressures, systems, including anchorage, do not evidence material failures, structural distress, and permanent deformation of main framing members exceeding 0.2 percent of span.
 3. Test Durations: As required by design wind velocity but not less than 10 seconds.
- D. Temperature Change (Range): Systems accommodate 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- E. Air Infiltration: Maximum air leakage through fixed glazing and framing areas of systems of 0.06 cfm/sq. ft. (0.03 L/s per sq. m) of fixed wall area when tested according to ASTM E 283 at a minimum static-air-pressure difference of 1.57 lbf/sq. ft. (75 Pa).

- F. Water Penetration Under Static Pressure: Systems do not evidence water penetration through fixed glazing and framing areas when tested according to ASTM E 331 at a minimum static-air-pressure difference of 20 percent of positive wind-load design pressure, but not less than **6.24 lbf/sq. ft. (300 Pa)**.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
 - 1. For entrances, include hardware schedule and indicate operating hardware types, functions, quantities, and locations.
- C. Samples: For each exposed finish. Provide minimum **3-inch (76.2-mm)** by **5-inch (127-mm)** color sample applied to aluminum sheet of same gage as specified herein.

1.4 QUALITY ASSURANCE

- A. Single Source Responsibility: Obtain aluminum-framed entrances and storefronts from one source and from a single manufacturer.
- B. Installer Qualifications: Acceptable to manufacturer and capable of preparation of data for aluminum-framed systems including Shop Drawings based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
- C. Modification of Details: Drawings are based on one manufacturer's standard aluminum system. Other standard system of equivalent nature are acceptable when differences do not materially detract from design concept or intended performances as judged solely by Owner Representative.

1.5 WARRANTY

- A. Warranty information for aluminum-framed entrances and storefronts is specified in Division 01 Section "Product Warranties."

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers:
 - 1. EFCO Corporation
 - 2. Kawneer North America.
 - 3. Oldcastle BuildingEnvelope
 - 4. Tubelite, Inc.
 - 5. YKK AP America Inc.

2.2 MATERIALS

- A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
1. Sheet and Plate: **ASTM B 209** (**ASTM B 209M**).
 2. Extruded Bars, Rods, Profiles, and Tubes: **ASTM B 221** (**ASTM B 221M**).
 3. Extruded Structural Pipe and Tubes: ASTM B 429.
 4. Structural Profiles: ASTM B 308/B 308M.

2.3 FRAMING

- A. Framing Members: Manufacturer's standard extruded-aluminum framing members of thickness required and reinforced as required to support imposed loads.
1. Construction: Thermally broken (exterior), nonthermal (interior).
 2. Glazing System: Retained mechanically with gaskets on four sides with snap-on retainers without visible screws.
 3. Glazing Plane: Center.
 4. Fabrication Method: Field-fabricated stick system.
 5. Frame Sizes: As detailed on Drawings or if not detailed, as follows:
 - a. Depth: **4-1/2 inches** (**114.3 mm**).
 - b. Sightline: **2 inches** (**50.8 mm**) sightline.

2.4 GLAZING

- A. Glazing: As specified in Division 8 Section "Glazing."
- B. Glazing Gaskets: Manufacturer's standard compression types, replaceable, molded or extruded, that maintain uniform pressure and watertight seal.
- C. Spacers and Setting Blocks: Manufacturer's standard elastomeric types.

2.5 ALUMINUM FINISHES

- A. Anodized Finish: AAMA 611, AA-M12C22A41 or AA-M12C22A42/A44, Class I, 0.018 mm or thicker.
1. Colors: As specified in Division 01 Sections "Décor Interior Finishes and Colors" and "Exterior Finishes and Colors."

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General:

1. Fit joints to produce hairline joints free of burrs and distortion.
2. Rigidly secure nonmovement joints.
3. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration.
4. Seal joints watertight, unless otherwise indicated.

B. Metal Protection:

1. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape or installing nonconductive spacers as recommended by manufacturer for this purpose.
2. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

C. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating within the system to exterior.

D. Install components plumb and true in alignment with established lines and grades, without warp or rack.

E. Install glazing as specified in Division 08 Section "Glazing."

F. Entrances: Install to produce smooth operation and tight fit at contact points.

G. Install perimeter joint sealants as specified in Division 07 Section "Joint Sealants" and to produce weathertight installation.

H. Erection Tolerances: Install aluminum-framed systems to comply with the following maximum tolerances:

1. Location and Plane: Limit variation from true location and plane to **1/8 inch in 12 feet (3 mm in 3.7 m)**; **1/4 inch (6 mm)** over total length.
2. Alignment:
 - a. Where surfaces abut in line, limit offset from true alignment to **1/16 inch (1.5 mm)**.
 - b. Where surfaces meet at corners, limit offset from true alignment to **1/32 inch (0.8 mm)**.
3. Diagonal Measurements: Limit difference between diagonal measurement to **1/8 inch (3 mm)**.

END OF SECTION 08 41 13