

## SECTION 08415

### ALUMINUM & GLASS ENTRANCES

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#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Aluminum storefront systems.
- B. Aluminum entrances.

##### 1.2 RELATED SECTIONS

- A. Section 08120 - Aluminum Doors and Frames.
- B. Section 07920 - Joint Sealants.
- C. Section 08800 - Glazing.

##### 1.3 MATERIAL REFERENCES

- A. AAMA 501.3 - Field Check of Water and Air leakage through Installed Exterior Windows, Curtain Walls, and Doors by Uniform Air Pressure Difference.
- B. AAMA Specifications for Aluminum Structures.
- C. ASTM E 283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
- D. ASTM E 330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
- E. ASTM E 331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
- F. ASTM E 547 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference.

##### 1.4 SYSTEM PERFORMANCE DESCRIPTION, ENTRANCES

- A. Performance Requirements: Provide aluminum storefront systems that comply with performance requirements indicated, as demonstrated by testing manufacturer's assemblies in accordance with Florida Building Code Protocol TAS 201-94, TAS 202-94, and TAS 203.
  - 1. Air Infiltration: Completed storefront systems shall have 0.25 cfm/sf (0.37 m<sup>3</sup>/h m<sup>2</sup>) maximum allowable infiltration when tested in accordance with ASTM E 283 at differential static pressure of 6.24 psf (299 Pa).
  - 2. Water Infiltration: No uncontrolled water other than condensation on indoor face of any component when tested in accordance with ASTM E 547 and ASTM E 331 at test pressure differential of 9 psf (431 Pa). Water test shall be performed immediately after design pressure test.
  - 3. Wind Loads: Completed entrance system shall withstand wind pressure loads normal to wall plane indicated:

- a. Exterior Aluminum Entrance Doors:
  - 1) Model ENV-350 Out-swing.
  - 2) Model ENV-350 In-swing.
    - a) Positive Pressure: 100 psf (4792 Pa).
    - b) Negative Pressure: 100 psf (4792 Pa).
- 4. Deflection: Permanent deflection shall not exceed maximum allowable deflection in any member when tested in accordance with ASTM E 330 with allowable stress in accordance with AAMA Specifications for Aluminum Structures.

#### 1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Submit product data for each storefront system specified.
- C. Shop Drawings: Submit shop drawings showing layout, profiles, and product components, including anchorage, accessories, finish color and textures.
- D. Samples: Submit verification samples for colors on actual aluminum substrates indicating full color range expected in installed system.
- E. Quality Assurance and Quality 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.

#### 1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
  - 1. Manufacturer capable of providing pre-glazed storefront and doors to ensure factory seal of glass to aluminum and aluminum to aluminum joints.
  - 2. Manufacturer capable of providing field service representation during construction, approving acceptable installer, and approving application method.
- B. Installer Qualifications:
  - 1. Installer experienced in performing the work of this Section who specializes in the installation of work similar to that required for this project. If requested by Owner, submit reference list of completed projects.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store products above grade and protect from soaking water, surface contamination, corrosion, construction traffic, and other damaging causes.

#### 1.8 PROJECT CONDITIONS

- A. Field Measurements: Due to potential extended lead times the GC must provide guaranteed dimensions to glazing contractor.

#### 1.9 WARRANTY

- A. 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. Issue warranty in the legal name of the Project Owner.
2. Warranty Period: 3 years commencing on the Date of Substantial Completion.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Enviralum Industries, Inc., which is located at: 5100 N. W. 72<sup>nd</sup> St. Building C ; Miami, FL 33166 ; Tel: 305-752-4411 ; Fax: 305-406-3877; Email: [info@enviralum.com](mailto:info@enviralum.com) ; Web: [www.enviralum.com](http://www.enviralum.com)
- B. Substitutions: Not permitted.

### 2.2 ENTRANCE SYSTEM

- A. General: Provide all materials, labor and equipment for the complete installation of the aluminum entrance system as shown on the drawings and specified herein.
- B. Entrance Doors:
  1. Model ENV-350 Medium Stile Out-swing Door LMI.
  2. Model ENV-350 Medium Stile In-wing Door LMI.
  3. Model ENV-350 Medium Stile Out-swing Door SMI.
  4. Dimensions: Extruded aluminum door stiles shall be 3-1/2 inch (89 mm) wide by 2 (51 mm) inches thick. Top rail shall be 3-1/2 inches (89 mm). Bottom rail shall be 8 inches (203 mm) or 10 (254mm) inches.
  5. Components:
    - a. Corner Construction: Rails affixed to stiles using slide in slotted/grooved shear block with stainless steel fasteners concealed inside stiles.
    - b. Threshold:
      - 1) Water Rated Bumper Threshold: ADA compliant cover & ramp.
      - 2) Water Rated Bumper Threshold: With hi-rise bumper cover.
    - c. Hardware:
      - 1) Stainless steel, ball bearing, 4 1/2 x 4 inch butt hinges, 1-1/2 pair or more leaf as determine by door height & width.
      - 2) Continuous Gear Aluminum Hinges.
      - 3) Locking Mechanism: 3 point locking mechanism on active leaf; 2 point lock on inactive leaf.
      - 4) Keyed cylinder on exterior with thumbturn on interior of active leaf, thumbturn on inactive leaf.
      - 5) ADA compliant 1" diameter aluminum solid round push bar/1" dia. Offset pull 10" ctc.
      - 6) Sargent 8400 (CVR) panic equipped with multiple exterior trim options.
      - 7) Sargent 8400 (CVR) electrified panic equipped with multiple exterior trim options.
    - d. Glazing: Wet seal exterior with structural silicone per manufacturer's written instructions.
    - e. Weather Stripping: Manufacturer's specified weather stripping installed in all contact points in accordance with manufacturer's written instructions.
    - f. 9/16 inch (14 mm) heat strengthened laminated glass with 0.090 inch (2.3 mm) Kuraray PVB interlayer.
    - g. 1 5/16 inch (33 mm) heat strengthened laminated insulated glass with 0.090 inch (2.3 mm) Kuraray PVB interlayer, 1/2 inch (13mm) air spacer, 1/4 inch (6mm) tempered glass.
    - h. 9/16 inch (14 mm) heat strengthened laminated glass with 0.090 inch (2.3 mm)

- Kuraray SGP interlayer.
    - i. 1 5/16 inch (33 mm) heat strengthened laminated insulated glass with 0.090 inch (2.3 mm) Kuraray SGP interlayer, 1/2 inch (13mm) air spacer, 1/4 inch (6mm) tempered glass.
  - 6. Glass for Large Missile Impact Level-E: Provided in Section 08800.
    - a. 9/16 inch (14 mm) heat strengthened laminated glass with 0.180 inch (4.6 mm) Kuraray SGP interlayer.
    - b. 1 5/16 inch (33 mm) heat strengthened laminated insulated glass with 0.180 inch (4.6 mm) Kuraray SGP interlayer, 1/2 inch (13mm) air spacer, 1/4 inch (6mm) tempered glass.
  - 7. Glass for Small Missile Impact: Provided in Section 08800.
    - a. 9/16 inch (14 mm) heat strengthened laminated glass with 0.060 inch (1.5 mm) Kuraray PVB interlayer.
    - b. 1 5/16 inch (33 mm) heat strengthened laminated insulated glass with 0.060 inch (1.6 mm) Kuraray PVB interlayer, 1/2 inch (13mm) air spacer, 1/4 inch (6mm) tempered glass.

## 2.3 MATERIALS

- A. Extrusions: 6063-T6 Aluminum Alloy.

## 2.4 ACCESSORIES

- A. Manufacturers Standard Accessories:
  - 1. Fasteners: Stainless steel assembly screws.
  - 2. Glazing: Exterior structural silicone adhesive. Interior gasket secured with extruded glass stop.
  - 3. Glazing Adhesive: Dow Corning 991

## 2.5 FABRICATION

- A. Shop Assembly: Fabricate and assemble units with joints only at intersection of aluminum members with uniform hairline joints; rigidly secure, and seal in accordance with manufacturer's written recommendations.
  - 1. Hardware shall be install

## 2.6 FINISHES

- A. Painted Finish: (Standard) Thermosetting polyester powder coat finish.
  - 1. Enviralum White
  - 2. Enviralum Dark Bronze
- B. Painted Finish: (Optional) thermally applied two-coat Kynar resin finish.
  - 1. Florida White: 70% Kynar.
  - 2. Arcadia Silver: 70% Kynar.
  - 3. Statuary Bronze: 70% Kynar.
  - 4. Custom Color: PPG, Valspar, AKZO NOBEL color chip #\_\_\_\_\_
  - 5. Match to paint sample available upon request.
- C. Anodized Finish: (Standard) Prepare aluminum surfaces for specified finish; apply shop finish in accordance with the following:
  - 1. Clear Anodized (Class I): Minimum 15 minute anodizing process.
  - 2. Bronze Anodized (Class II): Minimum 30 minute anodizing process.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Examine areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of Work. Do not proceed until unsatisfactory conditions are corrected.

### 3.2 PREPARATION

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

### 3.3 INSTALLATION

- A. General: Install system in accordance with FBC Approvals drawings and within specified tolerances.
  - 1. Verify that framework is straight and plumb.
  - 2. Verify shim spacing around perimeter of frame.
  - 3. Verify metal joints are sealed in accordance with manufacturer's instructions.
  - 4. Seal metal to metal storefront system joints using sealant recommended by manufacturer.
  - 5. Verify that frame jamb is straight and plumb.
  - 6. Verify diagonal and flatness tolerances are not exceeded.
- B. Installation Tolerances: For gasket compression.
  - 1. Diagonal variation not to exceed 1/16 inch (1.6 mm).
  - 2. Flatness variation not to exceed 1/16 inch (1.6 mm).

### 3.4 FIELD QUALITY CONTROL

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

### 3.5 ADJUSTING AND CLEANING

- A. Adjusting: Adjust swing doors for operation in accordance with manufacturer's instructions.
- B. Cleaning: Clean in accordance with manufacturer's instructions.
- C. Protect installed product finished surfaces from damage during construction.

END OF SECTION