

### SECTION 08520 ALUMINUM WINDOWS

#### Part 1 – General

##### 1.01 Summary

- A. Section includes:
  - 1. Aluminum Windows
- B. Related Sections:

##### 1.02 References

- A. American Architectural Manufacturers Association (AAMA)
- B. American Society for Testing and Materials (ASTM)
- C. Aluminum Association (AA)
- D. California Association of Window Manufacturers (CAWM)

##### 1.03 System Description

- A. General: In addition to requirements shown or specified, comply with:
  - 1. Applicable provisions of AAMA Windows and Sliding Glass Doors Manual for design, materials, fabrication and installation of component parts.
- B. Design Requirements: Arcadia Series C3100 AW-PG90-FW Thermal Fixed Window.
- C. Performance Requirements: Each assembly tested by a recognized testing laboratory or agency in accordance with specified test methods. Air, water and structural test unit sized and configuration shall conform to requirements set forth in ANSI/AAMA 101-93
  - 1. Conformance to AAMA 101/I.S. 2-97.
    - a. Air Infiltration: Test unit in accordance with ASTM E 283-04 at a static air pressure difference of 6.24 psf. Air infiltration shall not exceed .02 cfm per square foot.
    - b. Water Resistance: Test unit in accordance with ASTM E 547 & 331-00 at a static air pressure difference of 12.0 psf. No water leakage.
    - c. Uniform Load Structural: Tested per ASTM E 330-02 and ASTM 547 at a static air pressure difference of 135 psf.
    - d. Uniform Load Deflection: Tested per ASTM E 330-02 @3120 Pa Interlock (90 psf).
    - e. Component testing: Test unit in accordance with procedures described in AAMA 101/I.S. 2-97.
    - f. Forced Entry Resistance: Conform to ASTM F 588-07 Grade 40: No Entry.
    - g. Condensation Resistance Factor (CRF): Test unit in accordance with AAMA 1503.1-88, the condensation resistance factor shall not be less than 56 for the frame, 64 for the glass.
    - h. Thermal Transmittance Test: Test unit in accordance with AAMA 1503.1-88 (U-Value) not more than .56 BTU/hr/sf/°F.
    - i. Thermal Movements: Allow thermal movement resulting from the following maximum change (range) in ambient temperature.
      - (a) 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

##### 1.04 Quality Assurance

- A. Single Source Responsibility:
  - 1. Obtain entrances, storefronts, ribbon walls, window walls, curtain walls, window systems, and finish through one source from a single manufacturer.
- B. Provide test reports from AAMA accredited laboratories certifying the performances as specified in 1.03.

##### 1.05 Warranty

- A. Warranted against failure and/or deterioration of metals due to manufacturing process for a period of two (2) years.

#### Part 2 – Products

##### 2.01 Manufacturers

- A. Acceptable Manufacturers:
  - 1. Arcadia Inc. 3955 E. Craig Road Las Vegas, NV. 89030 702/944-4680, fax 702/951-2525.
- B. Acceptable Products:

- 1. Arcadia Inc. C3100 Series Fixed Window.

##### 2.02 Materials

- A. Extruded aluminum profiles 6063-T6 alloy and temper (ASTM B221 G.S. 10A-T5).
- B. All framing members .062 minimum wall thickness.
- C. Back glazing two-sided adhesive, 15 lbs./ft.<sup>3</sup> density, polyethylene tape. Glazing wedges EPDM or Santoprene.
- D. Thermal barrier material poured in-place two part polyurethane.

##### 2.03 Finish

- 2. An Architectural Class II or I color anodic coating conforming with AA-M12C22A34/AA-M12C22A44.
  - a. Anodized finish color shall be Colormodic \_\_\_\_\_. (AB1 Light Champagne, AB2 Champagne, AB3 Light Bronze, AB4 Medium Bronze, AB5 Standard Medium Bronze, AB6 Dark Bronze, AB7 Standard Dark Bronze, AB8 Black.)
- (or) 1. An Architectural Class II or I anodic coating conforming with AA-M12C22A31/AA-M12C22A41.
  - a. Anodize finish color shall be Colormodic \_\_\_\_\_ (#11 Clear)
- (or) 1. Fluorocarbon Coating: AAMA 2605.2.
  - a. Resin: 70% PVDF Kynar 500/Hylar 5000.
  - b. Substrate: cleaned and pretreated with chromium phosphate.
  - c. Primer: Manufacturer's standard resin base compatible coating. Dry film thickness.
    - (a) Extrusion: Minimum 0.20 mil.
  - d. Color Coat: 70% PVDF, dry film thickness.
    - (a) Extrusion: 0.20 mil.
  - e. Color: As selected by Architect.
  - f. Acceptable Coatings Manufacturers:
    - (a) PPG Industries, Inc.
    - (b) Valspar Corporation
    - (c) BASF

##### 2.04 Fabrication

- A. Frame components shall be mortised and tightly joined using two (2) #8 stainless steel screws per joint.

#### Part 3 – Execution

##### 3.01 Examinations

- A. Examine conditions and verify substrate conditions are acceptable for product installation.

##### 3.02 Installation

- A. Install in accordance with approved shop drawings and manufacturers installation instructions.

##### 3.03 Field Quality Control

- A. Contractor's responsibility to make all necessary final adjustments to attain normal operation of each window and its mechanical hardware.

**END OF SECTION**