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 Inc. Series C3500 H-AW65 Thermal Double Hung 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 .30 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 97.5 psf.
     - d. Uniform Load Deflection: Tested per ASTM E 330-02 65 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 10: 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/ºF.
     - 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. C3500 Series Double Hung Windows.

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.^{3} 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 Colornodic _____. (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 Colornodic _____ (#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.
- B. Sash components shall be coped and secured with a minimum of 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