

## SECTION 08520 - ALUMINUM WINDOWS, HORIZONTAL SLIDING

### City of San Diego, CWP Guidelines

#### PART 1 -- GENERAL

##### 1.1 WORK OF THIS SECTION

- A. The WORK of this Section includes providing aluminum windows with frames, bracing, glazing attachments, screens, hardware, accessories and attachments, erection and accessories.

##### 1.2 RELATED SECTIONS

- A. The WORK of the following Sections applies to the WORK of this Section. Other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of this WORK.
  - 1. Section 07920 Sealants and Caulking
  - 2. Section 08800 Glazing

##### 1.3 CODES

- A. The WORK of this Section shall comply with the current editions of the following codes as adopted by the City of San Diego Municipal Code:
  - 1. Uniform Building Code

##### 1.4 SPECIFICATIONS AND STANDARDS

- A. Except as otherwise indicated, the current editions of the following apply to the WORK of this Section:
  - 1. ASTM E 283                      Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors
  - 2. ASTM E 330                     Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference
  - 3. ANSI/AAMA 101                Voluntary Specification for Aluminum Sliding Doors and Windows
  - 4. ASTM E 331                     Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference
  - 5. AA-Finishes                    Aluminum Association, "Designation System for Aluminum Finishes"

##### 1.5 SHOP DRAWINGS AND SAMPLES

- A. The following shall be submitted in compliance with Section 01300:

1. Manufacturer's catalog indicating the type of products proposed for installation
2. Elevations of each window type along with detailed cross references
3. Finish hardware literature and samples if required by CONSTRUCTION MANAGER
4. Details of window and frame construction along with metal gauges and fasteners
5. Methods of anchorage
6. Glazing and weatherstripping details
7. Drawings showing locations of hardware and provision and reinforcement for hardware
8. Schedule showing location and size of each window
9. Calculations by a registered civil or structural engineer showing that the window, window walls, entrances, and storefront systems and their structural connections are designed to meet code requirements and loads.

#### 1.6 OWNER'S MANUAL

- A. The following shall be included in the OWNER'S MANUAL in compliance with Section 01300:
  1. Detail specifications and instructions for installation, adjustments, cleaning and maintenance instructions.
  2. Test report by certified independent testing laboratory verifying compliance with test requirements.

#### 1.7 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. **Delivery of Materials:** Products shall be delivered in original, unbroken packages, containers, or bundles bearing the name of the manufacturer.
- B. **Storage:** Products shall be carefully stored in a manner that will prevent damage and in an area that is protected from the elements.

#### 1.8 FACTORY INSPECTION AND TESTING

- A. The CONTRACTOR shall be responsible for all costs associated with inspection and testing of materials, products, or equipment at the place of manufacture. This shall include costs for travel, meals, lodging, and car rental for [two] OWNER-designated inspectors for [ ] days required to complete such inspections or observations exclusive of travel days, if the place of manufacture, fabrication and factory testing is more than fifty (50) miles outside the geographical limit of the City. The CONTRACTOR shall not be responsible for salary or salary-related costs of the inspectors. The CONTRACTOR shall comply with the requirements of Section 01400.
- B. Windows and component structural tests shall conform to the "Voluntary Guide Specification for Aluminum Architectural Windows" as published by AAMA unless more stringent requirements are indicated.
- C. The windows shall equal or exceed the ANSI/AAMA 101 Class HS-HC-40 and/or HS-DW-HC40 specifications of the Architectural Aluminum Manufacturers Association.
- D. Testing shall comply with ASTM E 283 and E 330 and shall include:
  1. Air Infiltration Test (Perform before Water Test)(ASTM E 283) (0.37 max. @1.57 lbf/sq ft)
  2. Water Resistance Test (ASTM E 331) (@6.00 lbf/sq ft)

3. Uniform Load Deflection Test (ASTM E 330) (@60 lbf/sq ft)
4. Uniform Load Structural Test (ASTM E 330) (@60 lbf/sq ft)
5. Thermal Transmittance Test (AAMA 1503-1) ("U Value Class" U50 min.)
6. Condensation Factor (CRF-Class C-50) AAMA 1502.7

## **PART 2 -- PRODUCTS**

### 2.1 GENERAL

- A. Products: Products shall be new, of current manufacture, and shall be the products of reputable manufacturers specializing in the manufacture of such products.

### 2.2 MATERIALS

- A. Aluminum windows and components shall be:

1. Extruded aluminum prime billet 6063T5.
2. Aluminum sheet 5005 H34.
3. Principal window member minimum wall thicknesses shall be as necessary to meet design force requirements.

- B. Hardware shall comply with the following:

1. Steel components, shall be 300 series stainless steel: strikes, pins, axles, screws, fasteners and similar products.
2. Aluminum components, 6063T5.
3. Locking handles and cases shall be dark oil rubbed bronze or stainless steel having a finish color similar to window units.
4. Windows shall include inside locking (positive locking more than just latching) hardware or accessory hardware to prevent the window from being opened from outside if glass is broken.

- C. **Weatherstripping:** Weatherstripping shall be silicon coated, woven pile.

- D. **Screen:** Screens shall be removable aluminum frame [insert screen] [solar screen] units along with all hardware necessary for an integral installation at all fixed and operable window units (fixed and operable portions of windows). Aluminum frame color shall be the same as window frame color. [Solar screening shall be "Kool-Shade" of color selected by CONSTRUCTION MANAGER].

- [E. **Manufacturers:** Windows, of the model indicated, shall be manufactured by the following (or equal):

1. [ ]

2. [ ]

### 2.3 FABRICATION

- A. **General:** Frame and sash members shall be fabricated into complete windows under responsibility of one manufacturer. Window units shall bear Certification Label.
- B. **Sash:** Vertical sash members shall be hollow tubular extrusions to resist torsion. Sash corners shall be milled and telescoped for maximum strength. Vent sash shall roll on grease packed ball bearing rollers having nylon tires. Screws, fasteners, axles, and pins shall be stainless steel.
- C. **Frame:** Frames shall be constructed of continuous extrusions, with miter cut corners with each corner mechanically fastened with not less than two screws and sealed watertight.
- D. **Joinery:** Joinery methods shall not discolor finish or be unsightly.
- E. **Weatherstripping:**
  - 1. Sash shall be provided with double weatherstripping at head and sill.
  - 2. Weatherstripping shall be securely staked and joined at corners.
- F. **Hardware:**
  - 1. Interior sash meeting rail shall have a spring loaded stainless steel plunger lock that engages automatically with a stainless steel strike plate as the window is closed. The lock handle shall be applied to the interior face of the meeting rail, all interior meeting rails shall be continuous grip rail. Plastic hardware is not acceptable.
  - 2. Locks: Stainless steel strikes and keepers for manual and/or custodial key operation locking, to secure sash in closed position, shall be provided.
- G. **Finish:** Exposed surfaces of all aluminum windows and trim shall have an architectural Class IAA-M10-C22-[A- 41 clear] [A-42 dark bronze] [A-44 hardcoat dark bronze] (0.7 mil minimum thickness) anodized finish.

## PART 3 -- EXECUTION

### 3.1 INSTALLATION

- A. Installation of window units, and other components of the work shall comply with the manufacturer's specifications and written recommendations.

- B. Unit sets shall be set plumb, level, and true to line, without warp or rack of frames. Anchor shall be securely in place. Aluminum and other corrodible surfaces shall be separated from sources of corrosion or electrolytic action at points of contact with other materials.
- C. Sill members shall be set in sill pan (seal edges) and other members in a bed of sealant with joint fillers to provide weathertight construction. The CONTRACTOR shall coordinate installation of the window units with wall flashings and other components of the WORK.
- D. The aluminum surfaces and glazing shall be cleaned prior to project acceptance.
- E. The WORK of this Section includes precautions required through remainder of the construction period, to ensure that window units will be without damage or deterioration, other than normal weathering, at time of acceptance.
- F. **Trademarks:** Trademarks, nameplates, or similar items shall not be visible nor attached to the installation.
- G. **Protection:** After installation and erection, exposed surfaces and finishes shall be protected from damage.

### 3.2 CLEANUP AND DISPOSAL

- A. After completion of the installation, the unit shall be tested for water leaks and protected.
- B. Prior to acceptance by the OWNER, the CONTRACTOR shall clean the WORK of this Section as recommended by the product manufacturer.

\*\* END OF SECTION \*\*