

1995 CSI SECTION 08510 Steel Windows
2004 CSI SECTION 08 51 23 Steel Windows

PART 1 - GENERAL

1. DESCRIPTION
 - A. Work included:
 1. Furnish all labor and materials to complete the fabrication of windows as shown on architect's drawings and as specified herein. All windows covered by this specification shall be fabricated by Arcadia Inc. Vernon, California
 - B. Related work specified elsewhere:
 1. Glass, glazing and glazing materials, Section 08810.
 2. Perimeter caulking, Section 07915.
 3. Miscellaneous structural items, Section 05100.
2. QUALITY ASSURANCE
 - A. Allowable tolerances: Size dimensions + 1/16 inch.
 - B. Source quality control:
 1. Air infiltration test
 - a. Products must be independently lab tested and meet or exceed ASTM E-283.
 - b. Maximum air infiltration 0.30 CFM/ SQFT with differential pressure across window unit of 1.57 / 6.24 PSF
 2. Water penetration test
 - a. Products must be independently lab tested and meet or exceed ASTM E331.
 - b. No water penetration for 15 minutes when window is subjected to a rate of flow of 5 gal./hr/sqft with differential pressure across window unit of 6.00 PSF
 3. Field Testing
 - a. Field testing criteria (when applicable) shall be in accordance with AAMA 502-08.
 4. Structural test
 - a. Meets or exceeds ASTM E330
 5. Forced entry test
 - a. Meets or exceeds ASTM F588
 - b. Grade 40 @ 300 pounds
 6. Quality of topcoat combination shall meet or exceed the following ASTM designations:
 - a. ASTM D4585 Humidity Test
 - b. ASTM D714 Paint Blistering Test
 - c. ASTM B117-03 Salt Spray (Fog) Test
 - d. ASTM D1654-05 Painted Products in Corrosive Environments
 - e. ASTM G85 Cyclic Fog/Dry Test (Prohesion)
 - f. ASTM D5894-96 Salt Fog/UV Painted Metal
 - g. ASTM D4541 Pull off Strength of Coating Test
3. SUBMITTALS
 - A. Shop drawings
 1. Submit for approval shop drawings showing window and installation details, including anchorage, fastening and recommended sealing methods.
 2. Dimensioned elevations showing window opening and window sizes.
4. PRODUCT, STORAGE AND HANDLING
 - A. The General Contractor shall be responsible for the protection and storage of the windows after delivery to the site.
5. WARRANTY
 - A. Provide Arcadia's standard three (3) year Limited Warranty.

PART 2 - PRODUCT AND FABRICATION

1. MATERIALS
 - A. Heavy custom windows shall be manufactured from solid hot rolled steel shapes
 1. Combined weight of frame and ventilator sections shall be a minimum of 4.20 pounds per lineal foot. Frame section alone shall not weigh less than 1.80 pounds per lineal foot.
 - B. Operable Hardware:
 1. Awning, Hopper:
 - a. Fastener: Brass or Bronze cam fastener.
 - b. Ventilators shall be hung on heavy-duty stainless steel four bar hinges with brass friction shoes.
 2. Casement:
 - a. Fastener: Brass or Bronze cam fastener
 - b. Pivots: Aluminum-bronze pivot with stainless steel pin.
 - c. Friction and limit device: Stainless steel with sliding brass shoe and screw adjusted friction.
 - C. All screws that are furnished by Arcadia for hardware, trim, covers, anchoring, weather bars, water dams, screens, etc. shall be non-ferrous brass or stainless steel. Glazing bead retainer screws are plated steel.
2. FABRICATION
 - A. Fabricate steel windows in accordance with approved shop drawings.
 - B. Prior to fabrication, all hot rolled steel sections shall be cleaned by shot blasting.
 - C. Glazing
 1. All windows shall be designed for outside glazing.
 2. Provide replaceable continuous glazing beads to suit the glass as specified.
 - D. Weatherstrip
 1. All ventilators shall receive continuous EPDM weatherstripping that shall be applied to the interior and exterior contact surfaces of the frame and ventilator sections.
3. FACTORY FINISHING
 - A. Pretreatment
 1. Pretreatment process to thoroughly clean and prepare the substrates for zinc coating.
 - B. Paint Finish Topcoat
 1. Following the zinc primer coat(s), all windows and accessories are given a spray coat of acrylic polyurethane and oven baked at 225°F for 15 minutes to dry film thickness of 1.5-2.0 mils.

PART 3 - EXECUTION

1. INSPECTION
 - A. Window openings shall conform to details, dimensions and tolerances shown on the window manufacturer's approved shop drawings.
2. INSTALLATION
 - A. Install windows in openings in strict accordance with approved shop drawings.
3. CLEANING
 - A. Window installer shall leave window surfaces clean after installation and ready to receive glass and glazing. The window installer will not be responsible for final cleaning.

END OF SECTION