

1995 CSI SECTION 08510 Steel Windows

2004 CSI SECTION 08 51 23 Steel Windows

Part 1 – General

1.01 Summary

- A. Section includes:
 1. Fire Rated/Blast – Steel Fixed/Sliding/Single Hung Window
- B. Related Sections:
 1. Miscellaneous Structural items: Section 05500
 2. Perimeter Caulking and sealing: Section 07900
 3. Glass Glazing and Glazing Materials: Section 08800

1.02 References

- A. United Facilities Criteria (UFC) DOD Minimum Antiterrorism Standards for Buildings.
- B. US General Services Administration (GSA) Test Protocol for Glazing and Window Systems Subject to Dynamic Overpressure Loadings.
- C. Underwriters Laboratories Inc. (UL)
- D. American Architectural Manufacturers Association (AAMA)
- E. American Society for Testing and Materials (ASTM)
- F. Steel Window Institute (SWI)

1.03 System Description

- A. General: In addition to requirements shown or specified, comply with:
 1. Meet or exceed the Steel Window Institute (SWI) Specifications as indicated and/or modified by the specifications herein.
- B. Design Requirements: Arcadia STL362 Series Steel Window is a Fire Rated/Blast Window.
- C. Performance Requirements:
 1. Blast Mitigation: Accordance with DoD Antiterrorism Construction Standard UFC 4-010-01 for "Low" or "Medium" level of protection at 82' setback with explosive
 2. Anchor and structural calculations must be signed by a licensed Professional Engineer.
 - Or
 2. Accordance with US General Services Administration (GSA) Test Protocol GSA-TS01-2003, level 2 protection for design blast load of up to 10 psi peak applied pressure and 110 psi-msec. applied impulse. This test report will be accepted in lieu of calculations.
 3. Fire Rating: 45/60 Minute fire rated UL tested in accordance with NFPA 80 and NFPA 257.
 4. Life Safety Criteria: windows shall conform to NFPA 101 Life Safety Code when rescue and/or second means of escape are indicated
 5. Air Infiltration Test: ASTM E283 – Maximum air infiltration 0.37 CFM per square foot with a pressure differential of 6.24 PSF (50 MPH)
 6. Water Penetration Test: No water penetration for 15 minutes when the window is subjected to rate of flow of 5 Gal./Hr./Sq. Ft. with pressure differential of 2.9 C30 Structural Rated
 7. C30 Structural Rated

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.
- C. Submit shop drawings showing window and installation details, including anchorage, fastening and recommended sealing methods. Show dimensioned elevations with opening and window sizes. Upon request, provide test reports for all pertinent standards.
- D. Submit samples of anchors, fasteners, hardware, assembled corner sections and other materials and components as requested by Architect.

1.05 Warranty

- A. System shall be 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., 2301 E. Vernon, Vernon, CA. Telephone (323)269-7390, Fax (323)269-7300.
- B. Acceptable Products:
 1. Arcadia, Inc., STL362 Series Steel Window (Fire Rated/Blast).

2.02 Framing Materials and Accessories

- A. The frame and ventilator shall be composed of galvaneal steel sheet, Commercial Quality, complying with ASTM A526, chemically treated, extra smooth, not oiled, and coated in accordance with ASTM A525, G60 designated, all spangles wiped free.
- B. Structural Tubing: ASTM A500, Cold Formed, Welded Seamless Carbon Steel, in Rounds & Shapes.
- C. The frame and ventilator sections shall have a front to back depth dimension of 3 5/8" and be a minimum thickness of 16 gauge.
- D. Ventilators shall be double weatherstripped, weatherstripping shall be close cell neoprene, extruded vinyl or EPDM.
- E. Hardware shall be as follows:
 1. Self-Closing Hardware.
 2. 165 Degree Fusible Link.
 3. Self-closing
 4. Optional electronic actuated closure
- G. Glazing:
 1. Provide in general accordance with Section 08800.
 2. Glazing method shall be in general accordance with the GANA Glazing Manual for specified glass type, or as approved by the glass fabricator.
- H. Glazing Materials:
 1. Setting Blocks/Edge Blocking: Provide in sizes and locations recommended by GANA Glazing Manual.
 5. Expanded Cellular Glazing Tapes shall meet AAMA 800.
 6. Structural Silicone shall meet ASTM C 1184.
 7. Spacer tape in continuous contact with structural silicone shall meet AAMA 800.
- I. Screen:
 1. Screens made of extruded aluminum frame and screened with fiber mesh

2.01 Finish

- A. Primer Coat: Factory painted standard primer coat.
- B. Finish Coat: Electrostatically applied factory coated with baked alkyd enamel.
- C. Colors to be selected by architect.

2.04 System Fabrication

- A. All frame joists, mounting fins and integral mullions are to be welded utilizing true-penetration MIG weld. Oversized windows and combination window sets are to be joined with interlocking mullions for superior strength.
- B. Framing members shall be internally reinforced and secured at head and sill as necessary for structural performance requirements, for hardware attachment, and as indicated.
- C. Fasteners shall be so located as to ensure concealment from view in the final assembly.

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. Test the windows for water leaks in accordance with AAMA 501.2. Conduct test in the presence of the Architect. Correct deficiencies observed as a result of this test.

END OF SECTION