

SECTION 08 51 69.11
ALUMINUM STORM WINDOWS

SPEC WRITER NOTES:

Delete between // // if not applicable
to project.

Also delete any other item or paragraph
not applicable in the section and
renumber the paragraphs.

PART 1 - GENERAL

1.1 DESCRIPTION:

- A. This section specifies aluminum storm windows of triple track self-storing type, complete with frame, sash, hardware, glass closures, and related components and accessories as shown and specified on construction documents.
- B. Window opening sizes when shown on construction documents are nominal. Before fabricating storm windows, measure each opening to determine its exact size required.

1.2 RELATED WORK

- A. Section 09 06 00, SCHEDULE FOR FINISHES: Color of Finish.
- B. Section 08 80 00, GLAZING: Glazing.

1.3 PERFORMANCE REQUIREMENTS

- A. Air Infiltration: With sash closed and latched, test the window in accordance with ASTM E283 for air infiltration, which will not exceed 1.5 L per second per square meter (0.3 cubic feet per min per foot) of operable sash when subjected to static air pressure of 75 Pa (1.57 pounds force per square foot.).
- B. Water Drainage: Test window in accordance with ASTM E331, except pressure drop is to be zero, and test duration is to be three minutes. Unit is acceptable if no water runs over interior edge of sloped test-buck sill.
- C. Uniform Load: Test window in accordance with ASTM E330. Subject the window separately to any exterior uniform load of 480 Pa (10 pounds force per square foot), and an interior load of 240 Pa (5 pounds force per square foot). Maintain each load for 10 seconds. At conclusion of tests there is to be no evidence of breakage and test unit is required to operate freely.

1.4 SUBMITTALS

- A. In accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES, furnish the following:

- B. Shop Drawings: Indicate elevations of units, full-size sections, thicknesses and gages of metal, fastenings, methods of installations and anchorage, size and space of anchors, methods of glazing, locations of operating hardware, mullion details, method and material of weatherstripping, method of attaching screens, details of installation, and connections with other work including continuity with adjacent thermal, weather, air and vapor barriers.
- C. Manufacturer's Certificates: Stating that windows meet performance requirements specified.
- D. Manufacturer's Literature and Data: Windows, each type.
- E. Manufacturer's qualifications.
- F. Installer's qualifications.

1.5 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: A manufacturer who has supplied aluminum storm windows for a minimum of three (3) years that meet or exceed performance requirements indicated and of documenting this performance by test reports and calculations. Submit manufacturer qualifications.
- B. Installer Qualifications: An installer with a minimum of three (3) years' experience in the installation of aluminum storm windows. Submit installer qualifications.

1.6 WARRANTY

- A. Construction Warranty: Comply with FAR clause 52.246-21 "Warranty of Construction".
- B. Manufacturer Warranty: Manufacturer shall warranty their aluminum storm windows for a minimum of five (5) years // // from the date of installation and final acceptance by the Government. Submit manufacturer warranty.

1.7 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. Federal Specification (Fed. Spec.):
 - A-A-55615.....Shield, Expansion (Wood Screw and Lag Bolt Self-Threading Anchors)
 - L-S-125B.....Screening, Insect, Nonmetallic
 - TT-P-645A.....Primer, Paint, Zinc-Molybdate Type
- C. ASTM International (ASTM):

- B221-14.....Aluminum and Aluminum-Alloy Extruded Bars,
Rods, Wire, Shapes, and Tubes
- B221M-13.....Aluminum and Aluminum-Alloy Extruded Bars,
Rods, Wire, Shapes, and Tubes (Metric)
- C920-18.....Elastomeric Joint Sealants
- E283/E283M-19.....Rate of Air Leakage Through Exterior Windows,
Curtain Walls and Doors
- E330/E330M-14.....Structural Performance of Exterior Windows,
Curtain Walls, and Doors Under the Influence of
Wind Loads
- E331-00 (2016).....Water Penetration of Exterior Windows, Curtain
Walls, and Doors by Uniform Static Air Pressure
Difference
- D. American National Standard Institute and American Architectural
Manufacturers Association (ANSI/AAMA):
- 2605-05.....Superior Performing Organic Coatings on
Architectural Aluminum Extrusions and Panels
- E. American Architectural Manufacturers Association (ANSI/AAMA):
- 1002-11.....Secondary Storm Products for Windows and
Sliding Glass Doors
- F. National Association of Architectural Metal Manufacturers (NAAMM):
- AMP 500 Series.....Metal Finishes Manual

PART 2 - PRODUCTS

SPEC WRITER NOTE: Make material requirements agree with applicable requirements specified in the referenced Applicable Publications. Update and specify only that which applies to the project.

2.1 MATERIAL

- A. Aluminum, Extruded: ASTM B221M (B221). Aluminum alloy used for color coating as required to produce specified color. Colors for sheet aluminum not to deviate more than color of extrusion samples.
- B. Fasteners: Except as otherwise specified, screws, bolts, nuts, rivets and other fastening devices incorporated in windows to be of aluminum, stainless steel or other noncorrosive material compatible with aluminum which will provide required strength at connections. Plated or coated materials (except for glazing clips) will not be acceptable.

1. Where type, size or spacing of fastenings for securing window accessories or equipment to building construction is not shown or specified, use minimum 6 mm (1/4-inch) in diameter expansion or toggle bolts or screws, as best suited to construction material.
 2. Expansion Bolts (Shields): Fed. Spec. A-A-55615, except lead, fiber and plastic shields are not acceptable. Furnish bolts and screws required.
- C. Zinc-chromate Primer: Fed. Spec. TT-P-645.
- D. Insect Screening: Fed. Spec. L-S-125, 18 x 18 mesh.
- E. Sealant: ASTM C920.

2.2 STORM WINDOW

- A. Provide storm window units conforming to AAMA 102 that are aluminum triple-track, self-storing, // vertical sliding, // // horizontal sliding //, combination storm and screen type, factory glazed. Provide units with both glazed sash, and screen sash housed in window frame.
- B. Provide storm units designed to provide a rigid unit in place, to permit all sash to be removed from the inside, and to lock into the open and closed positions. Sash units that rattle when operated or when subjected to wind conditions are not acceptable.

2.3 FABRICATION

- A. Provide glazed sash with aluminum frames, removable vinyl glazing inserts, interlocking meeting rails, and weather stripped edge at inside contact with the unit frame.
- B. Provide screen sash with aluminum frames, screening removable splines of aluminum or vinyl, covering the opening formed when the glazed sash are in the open position.
- C. Provide frames with an extruded aluminum section, with a minimum nominal material thickness of 1 mm (0.045 inch).
1. Provide interlocking scribe piece of the same material as the frame at bottom edge.
- D. Hardware: Manufacturer's standard hardware securely attached, easily accessible and operable, and capable of being removed without use of special tools.

2.4 FINISH

- A. In accordance with NAAMM AMP 500 series. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
- B. //Anodized Aluminum

1. //AA-C22A41 Aluminum Chemically etched medium matte, with clear anodic coating, Class I Architectural, 0.17 mm (0.7-mil) thick.//
2. //AA-C22A44 Chemically etched medium matte with electrolytically deposited metallic compound, integrally colored coating Class I Architectural, 0.17 mm (0.7-mil) thick finish. Dyes will not be accepted.// //
- C. //High-Performance Organic Finish: // Two-coat // // Three-coat // fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in color coat. //
- D. Hardware: Finish hardware exposed when window is in the closed position to match the window color.
- E. See Section 09 06 00, SCHEDULE OF FINISHES for window color.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install storm windows plumb, square, level, and in alignment and securely fastened to adjacent construction in accordance with window manufacturer's recommendations.
 1. After installation, adjust sash and hardware, so as to operate silently and smoothly without binding.
 2. Caulk joints between perimeter of interior face of storm window frames and adjoining construction with sealant.

3.2 ADJUSTING AND CLEANING

- A. Adjust movable sash and equipment to operate easily and properly free of defects before acceptance of work.
- B. Clean interior and exterior metal surfaces of storm window. Wash all glass clean.

3.3 REPLACEMENT

- A. Stained, discolored, abraded or damaged storm windows, that cannot be repaired to meet approval of Contracting Officer Representative (COR), are to be replaced at no additional cost to the Government.

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