Preparing Activity: NAVFAC Superseding
UFGS-08 51 69.10 (April 2006)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated July 2023
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08/20

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SECTION 08 51 69.10

ALUMINUM STORM WINDOWS
08/20

NOTE: This guide specification covers the requirements for storm windows for internal or external application on existing buildings.

Adhere to UFC 1-300-02 Unified Facilities Guide Specifications (UFGS) Format Standard when editing this guide specification or preparing new project specification sections. Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable item(s) or insert appropriate information.

Remove information and requirements not required in respective project, whether or not brackets are present.

Comments, suggestions and recommended changes for this guide specification are welcome and should be submitted as a Criteria Change Request (CCR).

NOTE: On the drawings, show location, size, and type of storm window and details of installation; show existing conditions where applicable.

PART 1 GENERAL

1.1 REFERENCES

NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a Reference Identifier (RID) outside of the Section's Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically be deleted from this section of the project specification when you choose to reconcile references in the publish print process.

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The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ALUMINUM ASSOCIATION (AA)

AA DAF45	(2003; Reaffirmed 2009) Designation System for Aluminum Finishes

AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)

AAMA 611	(2014) Voluntary Specification for Anodized Architectural Aluminum
AAMA 1002	(2011) Voluntary Specification for Secondary Storm Products for Windows and Sliding Glass Doors
AAMA 2603	(2020) Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels

ASTM INTERNATIONAL (ASTM)

ASTM C920	(2018) Standard Specification for Elastomeric Joint Sealants

1.2 SUBMITTALS

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NOTE: Review Submittal Description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list, and corresponding submittal items in the text, to reflect only the submittals required for the project. The Guide Specification technical editors have classified those items that require Government approval, due to their complexity or criticality, with a "G." Generally, other submittal items can be reviewed by the Contractor's Quality Control System. Only add a "G" to an item if the submittal is sufficiently important or complex in context of the project.

For Army projects, fill in the empty brackets

following the "G" classification, with a code of up to three characters to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

The "S" classification indicates submittals required as proof of compliance for sustainability Guiding Principles Validation or Third Party Certification and as described in Section 01 33 00 SUBMITTAL PROCEDURES.

Choose the first bracketed item for Navy, Air Force, and NASA projects, or choose the second bracketed item for Army projects.

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Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are [for Contractor Quality Control approval.][for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government.] Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Storm Windows

SD-03 Product Data

Storm Windows

SD-10 Operation and Maintenance Data

Storm Windows, Data Package 1; ; G[, [_____]]

1.2.1 Shop Drawing Information

Submit drawings showing elevations of units, full-sized section, thicknesses and gages of material, fastenings, methods of anchorage, size and spacing of anchors, and locations of operating hardware. Indicate method of glazing, method of attaching and operating both screen and glass insert panels, and method and materials for weatherstripping. Include mullion details, details of installation, and connections with other work, including details of existing windows and adjacent construction. Storm window schedule must show location of each unit.

1.2.2 Product Data Submittal Requirements

Submit complete descriptive literature for each type of storm window and accessory. Clearly mark data to indicate which type, size, model, or item is to be provided. Data must include instructions for adjustments, cleaning, and maintenance.

1.3 DELIVERY, STORAGE, AND HANDLING

Deliver products to the project site in undamaged condition. Store products out of contact with the ground under weathertight covering, and protect against damage. Do not install damaged units.

1.4 FIELD MEASUREMENT

Dimensions shown are nominal. Field measure openings to obtain exact dimensions needed for fabrication. Meeting rails or stiles of storm windows must align with the meeting rails or stiles of the prime windows.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Aluminum

AAMA 1002.

2.1.2 Storm Windows

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NOTE: See referenced publications for requirements not included in this section. The designations listed are:

FWE - Fixed-Removable Insulating Storm Windows for External Application

HWE - Horizontally Operating Insulating Storm Windows for External Application

VWE - Vertically Operating Insulating Storm Windows for External Application

FWI - Fixed-Removable Insulating Storm Windows for Internal Application

HWI - Horizontally Operating Insulating Storm Windows for Internal Application

VWI - Vertically Operating Insulating Storm Windows for Internal Application

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AAMA 1002, Specification [FWE,] [HWE,] [VWE,] [FWI,] [HWI,] [VWI,] except as otherwise specified herein. Provide windows with a Performance Class of [20] [30] [40] [_____]. Extrusions must have a nominal wall thickness of not less than 1.14 mm 0.045 inch.

2.1.3 Sealant

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NOTE: Where Section 07 92 00 JOINT SEALANTS is included in the specifications select the first bracketed option; if this section not included, select second option.

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[See Section 07 92 00 JOINT SEALANTS for sealant requirements.] [ASTM C920, Type S or M, Grade NS, Class 12.5, use NT, Color [_____]. Sealant must have been tested for use with the materials on which it will be used in this project.]

2.2 FABRICATION

AAMA 1002.

2.2.1 Connections

Rigidly connect frames at corners so as to prevent racking during normal handling and installation.

2.2.2 Locks or Latches

On vertically operating inserts, locks must engage round holes or deep notches in the main frame. On horizontally operating inserts, latches must automatically engage a groove or ridge on the main frame or sash.

2.2.3 Access for Cleaning

Inserts, both operating and non-operating, must be removable for cleaning.[Where fixed sashes are indicated, the inserts must be normally fixed but removable for cleaning.] Where prime windows have only one operating sash, the operating sash of the storm window must be in the same position as the prime window.

2.3 FINISHES

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NOTE: For most applications, the finish should be clear anodized, Architectural Class II, or baked enamel organic, at the option of the Contractor. Specify other finish or color only if specific conditions justify the additional cost or if required to match finish on prime windows. While an upgraded anodic Class I product or organic finish conforming to AAMA 2604 or 2605 is desired in areas with high humidity and corrosive environments, research shows that availability is limited for products with these upgraded finishes. Project locations with Environmental Severity Classifications (ESC) of C3 thru C5 are corrosive environments. Humid locations are those in ASHRAE climate zones 0A, 1A, 2A, 3A, 3C, 4C and 5C (as identified in ASHRAE 90.1). See UFC 1-200-01 for determination of ESC for project locations. Designer must confirm availability of product through multiple suppliers prior to selecting the desired finish. Mill finish is not recommended.

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Exposed aluminum surfaces must be factory finished with anodic coating or organic coating. New storm windows must have the same finish.

2.3.1 Anodic Coating

Exposed surfaces of aluminum extrusions and sheet must be cleaned and given an anodized finish conforming to AA DAF45. Finish must be [clear (natural), designation AA-M10-C22-A31, Architectural Class II, AAMA 611] [integral color anodized, designation AA-M10-C22-A32, Architectural Class II, AAMA 611, or electrolytically deposited color anodized, designation AA-M10-C22-A34, Architectural Class II, AAMA 611. Color must be [as indicated] [_____]].

2.3.2 Organic Coating

Exposed surfaces of aluminum extrusions and sheet must be cleaned, primed, and given a baked enamel finish in accordance with AAMA 2603, with total dry film thickness not less than 0.02 mm 0.8 mil. The finish color must be [white] [as indicated] [_____].

PART 3 EXECUTION

3.1 PREPARATION

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NOTE: Insert additional subparagraphs on repairing, freeing stuck sash, weatherstripping, recaulking, reputtying, sanding, and painting to suit the project. If other surfaces are to be painted, the reputtying, sanding, and painting should be specified in Section 09 90 00 PAINTS AND COATINGS.
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Clean, repair, and paint existing prime windows which are to receive storm windows before storm windows are installed.[Examination and repair of weatherstripping and sealant of the prime window is not required.] Clean glass[, wood,] and metal surfaces which will be between the storm and prime windows with appropriate detergents or cleaning agents. Leave free of dirt, streaks, fingerprints, and other soil.

3.2 INSTALLATION

Install square, in true plane, level, plumb, in alignment with adjacent construction, and in accordance with manufacturer's printed instructions to ensure proper fit, sealing, and operation.

3.2.1 Sealants

Make perimeter of storm windows weathertight, except at weep holes. Provide gaskets to separate new metal from existing metal.

3.2.2 Fastening

Holes in the main frame must be oversized to allow for expansion and contraction. Attach units with panhead screws of adequate dimensions for the particular installation.

3.2.3 Drainage

At the storm window sill, between main frame and sill, provide weep holes of ample size to drain rainwater collecting between a closed prime window

and an open (summer position) storm window.

3.3 CLEANING

After installation, clean exposed surfaces to remove foreign matter and surface blemishes. Remove units which cannot be cleaned satisfactorily, and units which are damaged, and provide new units.

-- End of Section --