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USACE / NAVFAC / AFCEA / NASA           UFGS-08 51 69.10 (April 2006)  
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Preparing Activity:   NAVFAC           Replacing without change  
                                  UFGS-08582 (August 2001)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UML dated April 2009

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### SECTION 08 51 69.10

#### ALUMINUM STORM WINDOWS

04/06

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

Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable items(s) or insert appropriate information.

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

Comments and suggestions on this guide specification are welcome and should be directed to the technical proponent of the specification. A listing of technical proponents, including their organization designation and telephone number, is on the Internet.

Recommended changes to a UFGS should be submitted as a Criteria Change Request (CCR).

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

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## PART 1   GENERAL

### 1.1   REFERENCES

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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 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 DAF-45 (2003) Designation System for Aluminum Finishes

AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)

AAMA 1002.10 (1993) Voluntary Specification for Insulating Storm Products for Windows and Sliding Glass Doors

AAMA 2603 (2002) Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels

AAMA 611 (1998) Voluntary Specification for Anodized Architectural Aluminum

ASTM INTERNATIONAL (ASTM)

ASTM C 920 (2008) 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 to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality control.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation 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.

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" designation; submittals not having a "G" designation are [for Contractor Quality Control approval.][for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

#### SD-02 Shop Drawings

##### Storm windows

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 shall show location of each unit.

#### SD-03 Product Data

##### Storm windows

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 shall conform to specified requirements and shall include instructions for adjustments, cleaning, and maintenance.

#### SD-10 Operation and Maintenance Data

Storm windows, Data Package 1; [; G][; G, [\_\_\_\_\_]]

Submit data package in accordance with Section 01 78 23 OPERATION AND MAINTENANCE DATA.

### 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 shall align with the meeting rails or stiles of the prime windows.

### PART 2 PRODUCTS

#### 2.1 MATERIALS

##### 2.1.1 Aluminum

AAMA 1002.10.

##### 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

SGE - Sliding Glass Insulating Storm Door for External Application

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AAMA 1002.10, Specification [FWE,] [HWE,] [VWE,] [FWI,] [HWI,] [VWI,] except as otherwise specified herein. Windows shall have a Performance Class of [20] [30] [40] [\_\_\_\_\_]. Extrusions shall have a nominal wall thickness of not less than 1.14 mm 0.045 inch.

##### 2.1.3 Sealant

ASTM C 920, Type S or M, Grade NS, Class 12.5, use NT, Color [\_\_\_\_\_]. Sealant shall have been tested for use with the materials on which it will be used in this project.

#### 2.2 FABRICATION

AAMA 1002.10.

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

### 2.2.3 Access for Cleaning

Inserts, both operating and non-operating, shall be removable for cleaning. [Where fixed sashes are indicated, the inserts shall be normally fixed but removable for cleaning.] Where prime windows have only one operating sash, the operating sash of the storm window shall 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, 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. Mill finish is not recommended.  
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Exposed aluminum surfaces shall be factory finished with anodic coating or organic coating. New storm windows shall have the same finish.

### 2.3.1 Anodic Coating

Exposed surfaces of aluminum extrusions and sheet shall be cleaned and given an anodized finish conforming to AA DAF-45. Finish shall 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 shall be [as indicated] [\_\_\_\_]].

### 2.3.2 Organic Coating

Exposed surfaces of aluminum extrusions and sheet shall 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 shall be [white] [as indicated] [\_\_\_\_].

## PART 3 EXECUTION

### 3.1 PREPARATION

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NOTE: Insert additional subparagraphs on repairing, freeing stuck sash, weatherstripping, recalking, reputting, sanding, and painting to suit the project. If other surfaces are to be painted, the reputting, 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 shall 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 --