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USACE / NAVFAC / AFCEC / NASA **UFGS-08 11 69 (February 2010)**

Preparing Activity: NAVFAC **Superseding**
UFGS-08 11 69 (April 2006)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated January 2021
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SECTION TABLE OF CONTENTS

DIVISION 08 - OPENINGS

SECTION 08 11 69

METAL STORM DOORS

02/10

PART 1 GENERAL

1.1 REFERENCES
1.2 SUBMITTALS
1.3 DELIVERY, STORAGE, AND HANDLING

PART 2 PRODUCTS

2.1 MATERIALS
2.1.1 Wrought Aluminum, Sheet or Plate
2.1.2 Extruded Aluminum
2.1.3 Steel
2.1.4 Storm Doors
2.1.4.1 Hardware
2.1.4.2 Door Frames
2.1.4.3 Door Stiles and Rails
2.1.4.4 Kick Plate
2.1.4.5 Screen
2.1.5 Sealant
2.2 COMPONENTS
2.2.1 Connections
2.2.2 Glass Inserts
2.2.3 Locks
2.3 FINISHES
2.3.1 Aluminum
2.3.1.1 Anodic Coating
2.3.1.2 Organic Coating
2.3.2 Steel

PART 3 EXECUTION

3.1 PREPARATION
3.2 INSTALLATION
3.2.1 Sealants
3.2.2 Fastening
3.3 CLEANING

3.4 SCHEDULE

-- End of Section Table of Contents --

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SECTION 08 11 69

METAL STORM DOORS
02/10

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NOTE: This guide specification covers the requirements for storm doors for 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).

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NOTE: On the drawings, show location, size, and type of storm doors and windows and details of installation; 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.

****

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 2603	(2020) Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels

ASTM INTERNATIONAL (ASTM)

ASTM B209	(2014) Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
ASTM B209M	(2014) Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric)
ASTM B221	(2014) Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
ASTM B221M	(2013) Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric)
ASTM C920	(2018) Standard Specification for Elastomeric Joint Sealants
ASTM C1048	(2018) Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass

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.
****

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 doors

Show elevations of storm door units, full-size section, thicknesses and gages of material, finish and color, fastenings, methods of anchorage, size and spacing of anchors, method of glazing, locations of operating hardware, method and material for weatherstripping, method of attaching and operating both screen and glass insert panels, details of installation, and connections with other work.

On storm door schedule, show location of each unit.

SD-03 Product Data

Storm doors

Hardware

Submit complete descriptive literature for each type of storm door and accessory.

SD-04 Samples

****
NOTE: Choose one of the following options, or delete if samples are not required. Project size and complexity will affect what submittals are necessary.
****

[Storm doors]

[Submit one complete door unit of each type for approval. Label the sample for identification and, if approved, forward to the site. Samples in good condition may be installed if clearly identified and the locations are recorded. Do not remove identification and approval marks until final acceptance.]

[Submit one full-sized corner at least 150 mm 6 inches long and 75 mm 3 inches wide; show construction of each type frame.]

Storm door finishes; G[, [_____]]

Submit for approval color range samples for color finishes. The actual finish shall be within the range represented by the approved samples.

SD-06 Test Reports

Storm doors

Submit test reports indicating that storm doors conform to applicable requirements specified herein.

SD-10 Operation and Maintenance Data

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

Submit operation and maintenance data in accordance with Section 01 78 23 OPERATION AND MAINTENANCE DATA.

1.3 DELIVERY, STORAGE, AND HANDLING

Carefully pack products in poly bags or other protective containers. Deliver products to the project site in undamaged condition, store out of contact with the ground under weathertight covering, and protect against damage. Do not install damaged units. Replace damaged units with new units.

PART 2 PRODUCTS

2.1 MATERIALS

Metal storm doors shall be either aluminum or steel.

2.1.1 Wrought Aluminum, Sheet or Plate

ASTM B209MASTM B209, Alloy 3000 or 5000 series.

2.1.2 Extruded Aluminum

ASTM B221MASTM B221, Alloy 6063 or 6463, Temper T5 or T6.

2.1.3 Steel

Sections of the door shall be of roll formed tubular lock seam construction, consisting of 0.8 mm thick 22 gage, hot-dipped galvanized steel.

2.1.4 Storm Doors

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NOTE: See referenced publications for definition of designations, for other types available, and for requirements which are not specified in this section.
****

Conform to requirements specified herein. Doors shall be self-storing, equal light, combination storm doors, fully assembled and prehung complete with glazing, insect screens, hardware, and weatherstripping ready for installation into prepared door openings. Dimensions indicated are nominal. Field measure openings to obtain exact dimensions needed for fabrication.

2.1.4.1 Hardware

For each storm door, provide a spring-loaded latch bolt operated by a turn knob, thumb piece, or lever handle; a tubular, adjustable, pneumatic or hydraulic closer; a chain door stop; and an adjustable sweep mounted on a bottom expander or with a flat metal retainer. Storm doors shall be lockable from the inside. Latch hardware, latch pin, knob, and springs shall be made from corrosion resistant materials.

2.1.4.2 Door Frames

Expander type, regular Z-bar, or New England Z-bar, as required to suit actual conditions at the door openings.

2.1.4.3 Door Stiles and Rails

Aluminum storm doors shall have extruded aluminum tubular sections not less than 25 mm deep by 57 mm one inch deep by 2 1/4 inches face dimension, or 38 mm deep by 50 mm 1 1/2 inches deep by 2 inchesface dimension, and 1.27 mm 0.050 inch nominal wall thickness. Steel storm doors shall have roll formed tubular lock seam steel sections with corners reinforced with 1.5 mm thick 16 gage steel internal reinforcement and edge brazed.

2.1.4.4 Kick Plate

Kick plates for aluminum doors shall be not less than 5 mm 3/16 inch thick extruded aluminum or 8 mm 5/16 inch thick sandwich panel with sheet aluminum on both sides. Kick plates for steel doors shall be an embossed 1.2 mm thick 18 gage galvanized steel panel. Panels shall be complete

with vinyl splines and/or channel glazing stops with screws for installation.

2.1.4.5 Screen

Screen cloth shall be [6 by 7 per 10 mm16 by 18 mesh aluminum or fiberglass] [304 stainless steel, 5 by 5 per 10 mm 12 by 12 mesh and wire diameter of 0.7 mm .028 inch]. [Aluminum and fiberglass cloth screen inserts shall be held in place with removable, laid-in glazing splines.] [Stainless steel security screen shall be held in place by continuous 1.2 mm thick 18 gage galvanized steel retainer angles fastened with cadmium or zinc-plated screws 100 mm 4 inches on center. The main frame of the security screen shall be constructed of 0.6 mm thick 24 gage hot-dipped galvanized steel with lock seam construction.]

2.1.5 Sealant

Elastomeric type, ASTM C920, Type S or M, Grade NS, Class 12.5, Use NT, Color [_____]. Sealant shall have been tested and approved for use with aluminum, steel, and wood.

2.2 COMPONENTS

2.2.1 Connections

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

2.2.2 Glass Inserts

Provide glaze inserts using either marine or drop-in glazing. Inserts for steel doors shall be of mitered joint construction and brazed at exterior corners. Glass shall be in accordance with ASTM C1048, Kind FT (fully tempered), Condition A (uncoated), Type I, Class 1 (transparent), Quality q3, not less than 3 mm 1/8 inch thick.

2.2.3 Locks

On inserts, locks shall engage round holes or deep notches in the main frame.

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 special conditions justify the additional cost. Mill finish is not recommended.

****

2.3.1 Aluminum

Exposed aluminum surfaces shall be factory finished with an anodic coating or organic coating. New storm doors shall have the same finish.

2.3.1.1 Anodic Coating

Exposed surfaces of aluminum extrusions and sheets shall be cleaned, and an anodized finish shall be applied conforming to AA DAF45. 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] [_____]].

2.3.1.2 Organic Coating

Exposed surfaces of aluminum extrusions and sheets shall be thoroughly cleaned and primed, and a baked enamel finish shall be applied conforming to AAMA 2603, with total dry film thickness not less than 0.02 mm 0.8 mil. The finish color shall be [white] [as indicated] [_____].

2.3.2 Steel

Parts formed from hot-dipped galvanized steel shall be bonderized before and after assembly. After fabrication and assembly, materials shall be finished with a baked enamel finish. Color shall be [_____] [as indicated] [as selected from manufacturer's chart].

PART 3 EXECUTION

3.1 PREPARATION

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NOTE: Insert additional subparagraphs on repairing, reputtying, sanding, and painting to suit the project.
****

Thoroughly clean and repair surfaces to which storm door frames will be applied.

3.2 INSTALLATION

Install square, in a true plane, level, plumb, in alignment with adjacent construction, and in accordance with manufacturer's printed directions.

3.2.1 Sealants

Make the entire perimeter of the main frame weathertight. Provide gaskets to separate new metal from existing metal.

3.2.2 Fastening

Attach units with panhead screws of adequate dimensions for the particular installation.

3.3 CLEANING

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

3.4 SCHEDULE

Some metric measurements in this section are based on mathematical conversion of English unit measurements, and not on metric measurements commonly agreed to by the manufacturers or other parties. The English and metric units for the measurements shown are as follows:

Products	English Units	Metric Units
Steel	24 gage	0.6 mm
	22 gage	0.8 mm
	18 gage	1.2 mm
	16 gage	1.5 mm
Aluminum tubular sections	1 by 2 1/4 inches	25 by 57 mm
	1 1/2 by 2 inches	38 by 50 mm
Kickplates	3/16 inch	5 mm
	5/16 inch	8 mm
Screen	0.028 inch	0.7 mm
Glass	1/8 inch	3 mm

-- End of Section --