
USACE / NAVFAC / AFCEC / NASA UFGS-08 32 13 (November 2008)

Preparing Activity: NAVFAC Superseding
UFGS-08 32 13 (April 2006)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated July 2018

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SECTION 08 32 13

ALUMINUM SLIDING GLASS DOORS

11/08

NOTE: This guide specification covers the requirements for aluminum sliding glass doors for commercial, residential, and monumental type 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: Aluminum sliding glass doors are intended for use as an entrance to a patio, terraced area, or balcony, where only primary conventional door exits are available for use from the same interior area. Sliding glass doors shall not be the only exit from public use areas.

NOTE: On the drawings show opening sizes and schedule, arrangement of fixed and sliding panels, and methods of anchoring frames.

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 1503 (2009) Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections

AAMA 800 (2016) Voluntary Specifications and Test Methods for Sealants

AAMA/WDMA/CSA 101/I.S.2/A440 (2011; Update 1 2014) North American Fenestration Standard/Specification for Windows, Doors, and Skylights

ASTM INTERNATIONAL (ASTM)

ASTM C1048 (2012; E 2012) Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass

ASTM D3656/D3656M (2013) Insect Screening and Louver Cloth Woven from Vinyl-Coated Glass Yarns

ASTM E2016 (2015) Standard Specification for Industrial Woven Wire Cloth

ASTM F842

(2017) Standard Test Methods for Measuring
the Forced Entry Resistance of Sliding
Door Assemblies, Excluding Glazing Impact

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

16 CFR 1201

Safety Standard for Architectural Glazing
Materials

1.2 SUBMITTALS

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.

The Guide Specification technical editors have
designated 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 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.

The "S" following a submittal item indicates that
the submittal is required for the Sustainability
eNotebook to fulfill federally mandated sustainable
requirements in accordance with Section 01 33 29
SUSTAINABILITY REPORTING. Locate the "S" submittal
under the SD number that best describes the
submittal item.

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" 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.] Submittals with an "S" are for inclusion in the
Sustainability eNotebook, in conformance to Section 01 33 29 SUSTAINABILITY
REPORTING. Submit the following in accordance with Section 01 33 00

SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

NOTE: Select this paragraph or the paragraph
entitled "Manufacturer's Catalog Data" based on
which is appropriate for the project. Both
paragraphs may be used if necessary.

Aluminum sliding glass doors

Submit drawings for aluminum sliding glass doors [, screens,]
and accessories that indicate elevations of each door type, full
size sections, thickness, nominal gages of metal, fastenings,
proposed method of installation and anchoring, the size and
spacing and method of glazing, details of operating hardware,
method and material for weatherstripping, type of finish, and
screen details.

SD-03 Product Data

NOTE: Select this paragraph or paragraph entitled
"Drawings" based on which is appropriate for the
project. Both may be used if necessary.

Aluminum sliding glass doors

Hardware

Glazing

Weatherstripping

Screens

Finish

Describe each type of aluminum sliding glass door, hardware,
fastener, accessory, screen, and finish. Include descriptive
literature, detailed specifications, and performance test data.

SD-04 Samples

Finish

Submit color chart of factory color coatings when
factory-finished color coating is to be provided.

SD-10 Operation and Maintenance Data

Aluminum sliding glass doors, Data Package 1; ; G[, [_____]]

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

1.3 TEMPORARY PROTECTIVE COVERING

NOTE: The protection specified in this paragraph is a temporary protection for doors to be installed during construction of new buildings. The paragraph may be deleted when specifying doors for existing building construction.

Prior to shipment from the factory, finished surfaces of aluminum sliding glass doors shall receive a protective covering of waterproof tape, strippable plastic, or cardboard to protect against discoloration and surface damage that may occur during transportation, storage, and construction activities. Also, no coatings or lacquers shall be applied to surfaces to which caulking and glazing compounds must adhere. Covering shall be readily removable after installation.

1.4 DELIVERY AND STORAGE

Inspect aluminum sliding glass doors, [including screens,] hardware and accessories, for damage and unload and store doors upright on platforms in accessible spaces with a minimum of handling. The storage spaces shall be dry, adequately ventilated, free from heavy dust and not subject to combustion products, sources of water or other conditions that could damage the door. Storage spaces shall have easy access for inspection and handling of doors.

1.5 EXTRA STOCK

[Deliver an extra stock of markings for glass panels to the Government for use in future replacement of original markings. The extra stock shall be of the same designs, colors, and materials as the markings installed on this project. Furnish markings in original containers or packages in a quantity not less than [_____] percent of the amount of markings to be installed.]

PART 2 PRODUCTS

2.1 ALUMINUM SLIDING GLASS DOORS

NOTE: Aluminum sliding glass doors (SDG) designation and type in AAMA/WDMA/CSA 101/I.S.2/A440 establishes a minimum Performance Class for each door Grade: 15 for residential (R) 20 for commercial (C); and 40 for heavy commercial (HC). Units installed in high wind zones should be specified in accordance with the recommendation in AAMA/WDMA/CSA 101/I.S.2/A440.

NOTE: For minimum cost, use stock designs in standard sizes where possible. Require only minimum changes to standard design, and use minimum number of different sizes. Vinyl safety markings should be used where appropriate to make personnel aware of glass. If specific designs and colors are required

for markings, indicate on the drawings; in
monumental installation, a horizontal muntin may be
specified or indicated.

Design and construct with sliding panels and fixed panels in the sizes and arrangements indicated and conforming to AAMA/WDMA/CSA 101/I.S.2/A440 for Type [SGD-R15] [SGD-C20] [SGD-HC40], [SGD-_____] [except frame shall be equipped with thermal barrier]. [Mark panels identically and permanently to visibly interrupt the span of glass. Use markings [of the design and color indicated] [approximately 2500 square millimeters 4 square inches] of opaque, pressure-sensitive vinyl film with precoated adhesive.] Sliding door glazing shall be set in aluminum frames and roller assemblies of sufficient strength to withstand lateral live stresses and static load or weight requirements.

2.1.1 Hardware

NOTE: Key-operated cylinders may be incorporated into a master keying system provided they are: (1) manufactured by the same manufacturer as the manufacturer of the locks for the other doors, and (2) the number of pin tumblers in the cylinder for the sliding glass door locks is the same as the number of pin tumblers provided in the cylinders of the locks for the other doors.

Sliding door panel shall have a manually operated adjustable latch [operable by latch handle or slide bar from inside only] [operable by a five-pin tumbler cylinder lock on outside and thumb-turn on the inside] [operable by a five-pin tumbler cylinder lock from either side]. Fit sliding screen door panel with a self-latching hook or rotary-type latch operable from [inside only] [both sides]. [Provide pulls for both inside and outside of sliding panel and the sliding screen panel]. [Provide a pull on the inside of the sliding door panel and the sliding screen panel only]. [Provide auxiliary pin lock [bottom] [top and bottom] on inner side of sliding glass door panel opposite manually operated adjustable latch.] Exposed hardware is to be aluminum or stainless steel, color finished to match door color finish.

2.1.2 Glazing

NOTE: Select the thickness of glass using the Glass Table provided in AAMA/WDMA/CSA 101/I.S.2/A440. Glass thickness shall be not less than 6 mm 1/4 inch. Double glazing shall be used in cold climates to minimize heat loss and conserve fuel. The Condensation Resistant Factor should be specified in accordance with the recommendation in AAMA 1503.

Factory glazed sliding glass doors, including fixed panel, with [single glazed] [double-glazed] glass conforming to ASTM C1048, Kind FT, Condition A, Type [I] [II], Class 1, not less than [6] [_____] mm [1/4] [_____] inch thick. [Double glazing shall have a minimum condensation resistance factor of [_____] in accordance with AAMA 1503.] Glazing material must be

certified as meeting CPSC 16 CFR 1201, Category II. Set glazing unit in polyvinyl-chloride or synthetic rubber glazing channels. Channels shall be reusable when replacing glass and have mitered or continuous corners. Channels exposed to view shall blend in color with the aluminum frame finish.

2.1.3 Weatherstripping

Provide four sides of each sliding panel and interlocking stiles and jambs with weatherstripping. Weatherstripping shall conform to AAMA/WDMA/CSA 101/I.S.2/A440 and shall provide maximum protection against the elements and be designed for ease of replacement.

2.1.4 Screens

NOTE: Delete paragraph and other references to screens in this specification, if screens are not indicated on the project drawings.

Provide horizontal sliding aluminum screens in combination with aluminum sliding glass doors. Screen frames shall consist of aluminum shapes of size and design standard with the door manufacturer. Frames shall have removable splines of aluminum or vinyl and shall permit screening fabric replacement. Screening shall be [18 by 16 mesh aluminum conforming to ASTM E2016,] [plastic-coated fibrous glass conforming to ASTM D3656/D3656M, Class 2, 18 by 14 mesh, [_____ color] [selected color to match doors]]. Install screening with weave parallel with frames and sufficiently tight to present a smooth appearance. Conceal edges of screening in the spline channel. Screens shall be complete with rollers, hardware, and accessories and shall slide on or within tracks provided in the door frame members. Design and assemble doors so that aluminum-to-aluminum contact of moving members will not occur. Provide insect-proofing, formed of wool pile or other suitable material, at interlocking stiles and jambs. Finish on screen frames shall be as specified for doors.

2.1.5 Finish

NOTE: Specify AA-M-10-C22-A31 clear (natural) anodized finish or AA-M-10-C22-A32 color anodized finish, when doors will not be subjected to excessive wear or abrasion and will be regularly cleaned and maintained.

Specify AA-M-10-C22-A41 clear (natural) anodized finish or AA-M-10-C22-A42 color anodized finish, when doors will be subject to excessive wear and will not be regularly cleaned and maintained, or in highly corrosive industrial atmospheres with dust, gases, salts, or other disruptive elements that attack metal.

Color anodized finishes available include medium bronze, dark bronze, and black. Insert color desired in blank space provided. Of the choices indicated, black is generally most expensive.

**In a tropical environment or in areas where
corrosion is severe, the anodized finish should be
specified as 0.0175 mm 0.7 mil thickness or greater.**

Before fabrication, clean sliding glass door units and give a
[AA-M-10-C22-A31 clear (natural) anodized finish] [AA-M-10-C22-A41 clear
(natural) anodized finish] [AA-M-10-C22-A32 [_____] (color) anodized
finish] [AA-M-10-C22-A42 [_____] (color) anodized finish] in accordance
with the requirements of the AA DAF45. The finish thickness shall be [A41,
0.01 mm 0.4 mil or greater.] [A42, 0.0175 mm 0.7 mil or greater.]

2.2 CAULKING AND SEALING

As specified under Section 07 92 00 JOINT SEALANTS.

2.3 FORCED ENTRY RESISTANT DOORS

In addition to meeting AAMA/WDMA/CSA 101/I.S.2/A440, doors designated
forced entry resistant shall conform to ASTM F842.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Doors, Frames, and Accessories

Install doors, frames, framing members, hardware, and accessories in
accordance with approved shop drawings and the requirements specified
herein. Set frames securely anchored in place to straight, plumb, square,
level condition without distortion and in alignment. Install door panels
to retain proper weathering contact with frames. Caulk metal-to-metal
joints between frame members and remove excess material. Caulking around
perimeter of door frame and wall openings to provide weathertight
installation shall be accomplished in accordance with AAMA 800 and
manufacturer's recommendations. Finished work shall be rigid, neat in
appearance, and free from defects. Upon completion, adjust sliding doors
to operate properly. Thoroughly clean aluminum frames and glass in
accordance with manufacturer's recommendation. Doors damaged prior to
completion and acceptance shall be restored to original manufactured
condition or replaced with new doors as directed.

3.1.2 Protection of Aluminum from Dissimilar Materials

3.1.2.1 Aluminum to Dissimilar Metals

Prevent aluminum surfaces from contacting dissimilar metals other than
stainless steel, zinc, or white bronze by one or a combination of the
following:

- a. Paint dissimilar metal with one coat of heavy-bodied bituminous paint.
- b. Apply caulking between aluminum and dissimilar metal.
- c. Paint dissimilar metal with primer, followed by one coat of aluminum
paint or other suitable lead-free coating.
- d. Use nonabsorptive tape or gasket in permanently dry locations.

3.1.2.2 Drainage from Dissimilar Metals

Paint dissimilar metals located in areas where their drainage washes over aluminum to prevent the staining of aluminum.

3.1.2.3 Aluminum to Masonry and Concrete

Prevent aluminum surfaces from coming into contact with mortar, concrete, or other masonry materials by applying one coat of heavy-bodied bituminous paint to the aluminum surfaces.

3.1.2.4 Aluminum to Wood

Prevent aluminum surfaces from coming into contact with wood, treated wood, or similarly absorptive materials by one or a combination of the following methods:

- a. Paint aluminum surfaces with two coats of aluminum paint or one coat of heavy-bodied bituminous paint.
- b. Paint the wood, treated wood, or other absorptive surfaces with two coats of aluminum paint and seal contiguous joints with caulking compound.

-- End of Section --