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USACE / NAVFAC / AFCEA UFGS-08550 (August 2001)  
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Preparing Activity: NAVFAC Superseding  
UFGS-08550 (September 1999)

## UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMLR dated 22 December 2004

Latest change indicated by CHG tags

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### SECTION 08550

#### WOOD WINDOWS 08/01

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NOTE: This guide specification covers the requirements for wood windows of the following types: single-hung, double-hung, awning, casement, horizontal sliding, and non-operative (stationary window unit).

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).

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.

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## PART 1 GENERAL

### 1.1 REFERENCES

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NOTE: Issue (date) of references included in project specifications need not be more current than provided by the latest guide specification. Use of SpecsIntact automated reference checking is recommended for projects based on older guide specifications.

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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 101 (2002) Voluntary Specifications for  
Aluminum, Vinyl (PVC) and Wood Windows and  
Glass Doors

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

AAMA 2604 (2002) Voluntary Specification,  
Performance Requirements and Test  
Procedures for High Performance Organic  
Coatings on Aluminum Extrusions and Panels

ASTM INTERNATIONAL (ASTM)

ASTM D 1784 (2003) Rigid Poly(Vinyl Chloride) (PVC)  
Compounds and Chlorinated Poly(Vinyl  
Chloride) (CPVC) Compounds

ASTM D 3656 (2004) Insect Screening and Louver Cloth  
Woven from Vinyl-Coated Glass Yarns

SCREEN MANUFACTURERS ASSOCIATION (SMA)

SMA 1004 (1987; R 1998) Aluminum Tubular Frame  
Screens for Windows

WINDOW AND DOOR MANUFACTURERS ASSOCIATION (WDMA)

WDMA I.S. 4 (2000) Water-Repellent Preservative  
Non-Pressure Treatment for Millwork

1.2 SUBMITTALS

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NOTE: Submittals must be limited to those necessary  
for adequate quality control. The importance of an  
item in the project should be one of the primary  
factors in determining if a submittal for the item  
should be required.

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 projects.

Submittal items not designated with a "G" are considered as being for information only for Army projects and for Contractor Quality Control approval for Navy 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 01330 SUBMITTAL PROCEDURES:

#### SD-02 Shop Drawings

Wood windows; G, [\_\_\_\_\_]

Indicate elevations of units, full-size sections, fastenings, methods of installation and anchorage, method of glazing, locations of operating hardware, mullion details, method and material for weatherstripping, [bar and muntin layouts,] method of attaching [insect screens] [storm windows], details of installation, and connections with other work.

#### SD-03 Product Data

Wood windows; G, [\_\_\_\_\_]

#### SD-08 Manufacturer's Instructions

Wood windows

Submit manufacturer's written instructions for installation.

#### SD-10 Operation and Maintenance Data

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

Submit data package in accordance with Section 01781 OPERATION AND MAINTENANCE DATA.

### 1.3 DELIVERY AND STORAGE

Deliver windows to site in sealed undamaged cartons or in palletized multiple units. Protect from damage, dampness and extreme temperature or humidity changes. Store under cover in well-ventilated enclosed space. Do not store in a building under construction until concrete, masonry, and

plaster are dry. Replace defective or damaged windows.

## PART 2 PRODUCTS

### 2.1 WOOD WINDOWS

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NOTE: If window cleaning anchors are required, add:

"Window cleaning anchors to be stainless-steel, conforming to ASME A39.1. Reinforce windows and frames for reception of anchors, and securely anchor window frames to wall construction for window cleaning anchors."

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NOTE: Where operating hardware is located 1980 mm 6 feet 6 inches or more above floor, specify poles and pole-operated handles to operate windows.

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NOTE: Show locations where storm units are to be installed. Windows for equipment rooms, laundry rooms, and similar spaces should not be provided with storm units. Storm windows are not required over double-glazed insulating type windows.

Specify window screens in medical facilities, food preparation areas, dining areas, sleeping areas, and similar locations. Locations should be shown.

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Wood windows shall consist of complete units including sash, glass, frame, weatherstripping, [insect screen,] and hardware. Window units shall meet the Grade 40 requirements of AAMA 101, except maximum air infiltration shall not exceed 0.00016 cu m per second 0.34 CFM per linear foot of sash crack when tested under uniform static air pressure difference of 75 pascals 1.57 psf. In addition to general hardware requirements of AAMA 101, provide hardware for various window types as indicated below. Glass and glazing materials shall conform to Section 08800 GLAZING. [Storm windows shall conform to Section 08582 ALUMINUM STORM WINDOWS]. [Wood members which will receive transparent finish shall be in one piece, not finger-jointed.]

#### 2.1.1 Single-Hung and Double-Hung Windows

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NOTE: Double-hung or single-hung windows should be used for living quarters, where storm sash are to be provided or window air-conditioners used. Single-hung have less air leakage and should be considered over double-hung where feasible.

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Provide with one sash fastener and two sash lifts, except provide one sash lift when window is fitted with a balance that counterbalances weight of sash.

### 2.1.2 Awning Windows (Top Hinged)

Awning window ventilators in same bay shall operate [separately] [in unison]. Provide two or more hinges, pivots, or sash-supporting arms for each operative sash to allow easy operation, substantial support and cleaning of both sides of sash from inside. Provide latches for securing each sash if operating devices do not include locking features. Provide operating devices for controlling position of sash, including full open, tight close, and intermediate firm hold. Operating devices shall include rotary operators of worm-gear type with wear-resistant and impact-resistant gears or lever operators of lever handle, off-set arm type. Venting sash shall have corrosion resistant steel hinges connected to top and bottom rails of sash. When lever operators are used, operating arms shall be adjustable so that even sash edge contact can be maintained.

### 2.1.3 Casement Windows

Provide two or more hinges, pivots, or sash-supporting arms for each operative sash to allow easy operation, substantial support and cleaning of both sides of sash from inside. Provide latches for securing each sash if operating devices do not include locking features. Provide operating devices for controlling the position of the operative sash, including full open, tight close, and intermediate firm hold. Operating devices shall include rotary gears and adjustable operating arms so that even sash contact can be maintained.

### 2.1.4 Horizontal-Sliding Windows

Provide latches, pulls, and corrosion resistant steel slides necessary to control and secure window. Provide for cleaning of both sides of sash from inside.

### 2.1.5 Stationary Windows

Provide fixed sash and basic frame in accordance with AAMA 101.

## 2.2 FINISHES

### [2.2.1 Paint

Furnish windows with factory-primed surfaces which will be exempt from first paint coat application required in Section 09900 PAINTS AND COATINGS.

### ] [2.2.2 Vinyl (PVC) Cladding

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**NOTE: Select the applicable paragraphs(s) from the following:**  
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Preservative treat all basic wood frame and sash members in accordance with WDMA I.S. 4, except do not use pentachlorophenol. Clad all exterior surfaces with rigid polyvinyl sheathing, complying with ASTM D 1784, class 14344-C, not less than 0.9 mm 35 mil average thickness.

### ] [2.2.3 Aluminum Cladding

Preservative treat all basic wood frame and sash members in accordance with

WDMA I.S. 4, except do not use pentachlorophenol. Clad all exterior surfaces with roll formed aluminum with joints sealed during assembly. Aluminum clad frames and sash shall meet performance requirements of AAMA 101.

#### 2.2.3.1 Aluminum Finish

Factory finish with [anodic coating] [or] [organic coating].

#### 2.2.3.2 Anodic Coating

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**NOTE: Select the applicable paragraphs(s) from the following:**  
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Conform to AA DAF-45. Finish shall be [clear (natural), designation AA-M10-C22-A31, Architectural Class II 0.010 to 0.0175 mm 0.4 mil to 0.7 mil] [clear (natural), designation AA-M10-C22-A41, Architectural Class I 0.0175 mm 0.7 mil or thicker] [integral color-anodized, designation AA-M10-C22-A32, Architectural Class II 0.010 to 0.0175 mm 0.4 mil to 0.7 mil] [integral color-anodized, designation AA-M10-C22-A42, Architectural Class I 0.0175 mm 0.7 mil or thicker] [electrolytically deposited color-anodized designation AA-M10-C22-A34, Architectural Class II 0.010 to 0.0175 mm 0.4 mil to 0.7 mil] [electrolytically deposited color-anodized, designation AA-M10-C22-A44, Architectural Class I 0.0175 mm 0.7 mil or thicker].  
[Color shall be [\_\_\_\_\_] [as indicated].]

#### 2.2.3.3 Organic Coating

Clean and prime exposed aluminum surfaces. Provide [baked enamel finish in accordance with AAMA 2603 with total dry film thickness not less than 0.020 mm 0.8 mil] [high performance finish in accordance with AAMA 2604 with total dry film thickness of not less than 0.030 mm 1.2 mils]. Finish color [\_\_\_\_\_] [as indicated].

#### ] [2.3 INSECT SCREENS

ASTM D 3656, Class 2, 18 by 14 mesh, color [charcoal] [grey] [\_\_\_\_\_] .  
Aluminum frames to meet SMA 1004.

#### ] [2.4 STORM SASH

As specified in Section 08582 ALUMINUM STORM WINDOWS.

#### ] [2.4.1 Finishes

Factory finish exposed aluminum surfaces with anodic coating or organic coating.

#### ] PART 3 EXECUTION

#### 3.1 INSTALLATION

##### 3.1.1 Wood and Wood Clad Windows

Install in accordance with the approved installation instructions. Securely anchor windows in place.



#### [3.1.2 Insect Screen

Install screen panels in accord with manufacturer's instructions. Install aluminum framed screens in accord with SMA 1004.

#### ] [3.1.3 Storm Windows

Install storm windows in accordance with manufacturer's standards and instructions.

#### ] 3.2 ADJUSTMENTS

Make final adjustment for proper operation of ventilating unit after glazing. Make adjustments to operating sash or ventilators to assure smooth operation. Units shall be weathertight when locked closed.

#### 3.3 CLEANING

Clean windows on both exterior and interior in accordance with manufacturer's recommendations.

-- End of Section --