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USACE / NAVFAC / AFCEA UFGS-12352N (September 1999)  
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Preparing Activity: NAVFAC Replacing without revision  
NFGS of same number and date

## UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated 25 June 2004

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09/99

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## SECTION 12352N

### RESIDENTIAL CASEWORK 09/99

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NOTE: This guide specification covers the requirements for prefinished kitchen and vanity cabinets and countertops for residential use.

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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NOTE: Custom cabinets, casework, and BEQ vanities should be specified in other sections.

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NOTE: On the drawings, show:

1. Locations and sizes of cabinets and countertops. Sizes should be those which are standard with the manufacturers.
2. Color and pattern, or species; cut; and stain color for cabinet finish.
3. Colors, patterns, and finish of laminated plastic.

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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.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A135.4 (1995) Basic Hardboard

ANSI A208.1 (1999) Particleboard

ASTM INTERNATIONAL (ASTM)

ASTM A 366/A 366M (1997e1) Commercial Steel, Sheet,  
Carbon, (0.15 Maximum Percent Cold-Rolled\*\*

BUILDERS HARDWARE MANUFACTURERS ASSOCIATION (BHMA)

BHMA A156.9 (2003) Cabinet Hardware

HARDWOOD PLYWOOD AND VENEER ASSOCIATION (HPVA)

HPVA HP-1 (2000) American National Standard for  
Hardwood and Decorative Plywood

KITCHEN CABINET MANUFACTURERS ASSOCIATION (KCMA)

KCMA A161.1 (2000) Performance & Construction  
Standards for Kitchen and Vanity Cabinets

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA LD 3 (2000) High-Pressure Decorative Laminates

NEMA LD 3.1 (1995) Performance, Application,  
Fabrication, and Installation of  
High-Pressure Decorative Laminates

U.S. DEPARTMENT OF COMMERCE (DOC)

PS1 (1995) Construction and Industrial Plywood  
(APA V995)

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

Cabinets; [G]

Show layout, details, materials, dimensions, and all information necessary for fabrication and installation.

SD-03 Product Data

Cabinets; [G]

Countertops; [G]

Hardware; [G]

Submit complete descriptive literature for each type of cabinet and countertop.

[ SD-04 Samples

Cabinet finishes; G

Where colors are not indicated, submit not less than eight different samples of manufacturer's standard colors for selection [by the Contracting Officer].]

Cabinets

Submit one assembled first article for inspection and approval by Contracting Officer at installation site.

### 1.3 DELIVERY AND STORAGE

Deliver materials in manufacturer's original unopened containers or packaging with labels intact and legible. Deliver, store, and handle materials so as to prevent damage. Replace defective or damaged materials with new.

## PART 2 PRODUCTS

### 2.1 CABINETS

The work includes providing new factory-finished kitchen wall and base cabinets with high pressure decorative laminate (HPDL) countertops [and bathroom vanity cabinets [with HPDL countertops] [to receive combination lavatory-countertops as specified in Section 15400N PLUMBING SYSTEMS]]. The cabinets shall conform to KCMA A161.1, requirements specified herein, and bear the "KCMA Certified Cabinet" seal of the Kitchen Cabinet Manufacturers Association. In lieu of this, manufacturer shall submit test reports from an approval laboratory that cabinets meet requirements of KCMA A161.1. Countertops shall conform to NEMA LD 3.1 and requirements specified herein.

### 2.2 MATERIALS

Conform to reference documents listed and specified requirements.

#### 2.2.1 High-Pressure Decorative Laminate (HPDL)

NEMA LD 3, satin finish, unless otherwise indicated.

##### 2.2.1.1 Countertops

PF 42, satin finish.

##### 2.2.1.2 Vertical Surfaces

GP 28 or PF 30, satin finish.

##### 2.2.1.3 Backing Sheet

BK 20.

##### 2.2.1.4 Cabinet Liner

CL 20.

### 2.2.2 Hardwood Plywood

HPVA HP-1, Type II (Interior), three- or five-ply, with face veneer of good grade (1) or better. All exposed edges shall be covered.

### 2.2.3 Hardwood

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NOTE: Manufacturers use a variety of wood species in the production of kitchen cabinets. To specify a single species would be cost prohibitive and/or restrict competition. When indicating finishes, such as "light oak," "medium walnut," etc., a wood species should be included in the finish designation for use as a guide to the wood grain character and appearance.  
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All exposed wood surfaces shall be hardwood of species consistent with specified finish. Species used need not be that indicated by finish named, but must be similar in grain character and appearance.

### 2.2.4 Softwood Plywood

PS1.

#### 2.2.4.1 Countertops

Exterior type, A-C Grade.

#### 2.2.4.2 Elsewhere

Interior type, A-B Grade, may be used in lieu of hardwood plywood where HPDL finish is provided.

### 2.2.5 Hardboard

ANSI A135.4, tempered.

### 2.2.6 Particleboard

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NOTE: Use of particleboard is standard with KCMA cabinets, but manufacturers can provide other materials if user requirements exceed particleboard performance.  
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ANSI A208.1, Grade 1-M-2 or 2-M-2 or better [may be used in lieu of plywood if both faces and all exposed edges are covered with wood veneer or HPDL] [may be used only in the fabrication of the countertops].

### 2.2.7 Steel for Cabinets

ASTM A 366/A 366M, cold rolled, commercial quality carbon steel sheet.

### 2.2.8 Sinks [, Lavatories] and Fittings

As specified in Section 15400N PLUMBING SYSTEMS.

## 2.3 FABRICATION

### 2.3.1 Cabinets

Kitchen wall and base cabinets [and vanities] shall be same type of construction and appearance. Fabricate with solid ends and frame fronts, or with frame construction throughout. Frames shall be solid hardwood not less than 20 by 38 mm 3/4 by 1 1/2 inches. Ends, bottoms, tops, and partitions shall be hardwood plywood [or particleboard] not less than 13 mm 1/2 inch thick. Cabinet backs and drawer bottoms shall be 5 mm 3/16 inch hardwood plywood or 3 mm 1/8 inch tempered hardboard. Provide mortise and tenon, dovetail, or dowel joints and glue together to produce a rigid unit.

Finish all exposed edges of plywood [and particleboard] with hardwood strips or high-pressure decorative laminate. Provide 64 by 100 mm 2 1/2 by 4 inch toe space with painted plywood or clear coated solid wood toe board.

#### 2.3.1.1 Shelves

Solid wood, plywood, or particleboard not less than 16 mm 5/8 inch thick. Support shelves at ends and 600 mm 24 inches on center.

#### 2.3.1.2 Doors

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**NOTE: Select the applicable paragraph(s) from the following:**  
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[Solid hardwood stiles and rails, not less than 20 mm 3/4 inch thick with [raised] [flat] hardwood panels.]

[Solid hardwood plywood not less than 16 mm 5/8 inch thick.]

#### 2.3.1.3 Drawer Fronts

Solid hardwood not less than 16 mm 5/8 inch thick to match doors.

#### 2.3.1.4 Drawer Sides and Backs

Solid clear wood or plywood, not less than 13 mm 1/2 inch thick.

### 2.3.2 Hardware

BHMA A156.9. Provide necessary hardware, including door and drawer pulls, two [self-closing] hinges [and a magnetic catch] for each door and two side-mounted extension 0.9 mm thick 20 gage zinc-or cadmium-plated steel guides with steel ball bearings and nylon rollers for each drawer. Center-mounted guides are not acceptable. Exposed hardware shall have a [chromium-plated] [antique brass] [\_\_\_\_\_] finish.

### 2.3.3 Countertop

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**NOTE: Use a plastic laminate backing sheet for counters exposed to excessive moisture.**  
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Fabricate with lumber and a core of exterior plywood [or particleboard,]



glued and screwed to form an integral unit. Bond laminated plastic under pressure to exposed surfaces, using type of glue recommended by plastic manufacturer [, and bond a backing sheet under pressure to underside of countertop]. Countertop unit shall be post-formed type with no-drip nose, cove moulding, and Style A back splash, and covered with NEMA LD 3, Grade PF 42 plastic. Back splash shall be not less than 88 mm 3 1/2 inches nor more than 113 mm 4 1/2 inches high.

## 2.4 FINISHES

### 2.4.1 Cabinet Finish

Provide factory applied [stained wood] [clear coated natural finish] [or] [HPDL] finish [as indicated] on all internal and external surfaces except underside of drawer bottoms.

#### 2.4.1.1 Stained Wood Finish

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**NOTE: Manufacturers use a variety of wood species in the production of kitchen cabinets. To specify a single species would be cost prohibitive and/or restrict competition. When indicating finishes, such as "light oak," "medium walnut," etc., a wood species should be included in the finish designation for use as a guide to the wood grain character and appearance.**  
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[As selected from manufacturer's standard finishes] [As indicated].  
Internal surfaces shall receive at least one coat of finish material.

#### 2.4.1.2 HPDL Finish

Pattern and color; [as selected from manufacturer's standard finishes] [as indicated]. Cover internal surfaces with cabinet liner HPDL.

### 2.4.2 Countertop Finish

Pattern and color; [as selected from manufacturer's standard finishes] [as indicated].

## [2.5 METAL CABINETS

### 2.5.1 Steel

Prime cold rolled steel, not lighter than 0.9 mm thick 20 gage for doors, 0.8 mm thick 22 gage for cabinet bodies and shelves. Provide wall cabinet corner mullions of full wrap construction with three 90 degree bends. Provide base cabinets with fixed top rails and integral sub-base with 64 by 100 mm 2 1/2 by 4 inch toe space. Make all exposed welds flush and grind smooth.

### 2.5.2 Welded Cabinets

Conform to KCMA A161.1, all welded construction.

### 2.5.3 Doors

Welded double pan construction with sound deadening material inside.

### 2.5.4 Drawers

Double pan fronts, with guides as specified for wood cabinets.

### 2.5.5 Doors and Drawer Fronts

Doors and Drawer Fronts may be as specified for wood cabinets in lieu of metal pan construction.

### 2.5.6 Shelves

Form with 90 degree bends on all four edges and two additional 90 degree bends on front edge.

### 2.5.7 Countertops

As specified for wood cabinets.

### 2.5.8 Finish

High-baked acrylic enamel, color [as selected from manufacturer's standard finishes] [as indicated].

## ] PART 3 EXECUTION

### 3.1 INSTALLATION

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**NOTE: The following paragraph should be included under installation in Section 15400, "Plumbing Systems" of the project specification:**

**"Countertop Sinks [and Lavatories]: Set fixtures with a bead of sealant all around to produce a watertight joint. Secure fixtures in place with mounting rims of type specified."**

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Install cabinets and countertops level, plumb, true to line, and tight against adjacent walls. Secure cabinets to walls with concealed screws or toggle bolts, and secure tops to cabinets with concealed screws. Provide closer and filler strips and finish moldings as required for a complete and finished installation. Draw joints in countertops up tight with special concealed fasteners. Joints shall be flush within 0.250 mm 0.010 inch, shall not gap more than 0.50 mm 0.020 inch, and shall be watertight. Cut countertops which are to receive sinks [or lavatories] to templates furnished by sink [or lavatory] manufacturer. Align doors, adjust hardware, and clean all surfaces.

-- End of Section --