
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
NASA-06200 (May 2005)
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(October 2004)

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DIVISION 06 - WOOD AND PLASTICS

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SECTION 06200

FINISH CARPENTRY
05/05

NOTE: Delete, revise, or add to the text in this section to cover project requirements. Notes are for designer information and will not appear in the final project specification.

This broadscope section covers interior wood finish, trim and mill-fabricated cabinets, wood shelving and casework, cabinet hardware, cabinet doors, plastic laminate counter tops and fronts.

PART 1 GENERAL

1.1 REFERENCES

NOTE: The following references should not be manually edited except to add new references. References not used in the text will automatically be deleted from this section of the project specification.

The publications listed below form a part of this section to the extent referenced:

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO M 133 (2003) Preservatives and Pressure Treatment Processes for Timber

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A208.1 (1993) Wood Particleboard

ANSI B18.6.1 (1981; R 1997) Screw, Wood

ARCHITECTURAL WOODWORK INSTITUTE (AWI)

AWI Qual Stds (2003) Architectural Casework - General

ASTM INTERNATIONAL (ASTM)

ASTM C 1036 (2001) Standard Specification for Flat

Glass

ASTM D 1037	(1999) Standard Test Method for Evaluating the Properties of Wood-Base Fiber and Particle Panel Materials
ASTM D 1760	(2001) Standard Specification for Pressure Treatment of Timber Products
ASTM D 4689	(1999) Standard Specification for Adhesive, Casein-Type
ASTM E 84	(2005) Standard Test Method for Surface Burning Characteristics of Building Materials

BUILDERS HARDWARE MANUFACTURERS ASSOCIATION (BHMA)

BHMA A156.18	(2003) Hardware - Materials and Finishes
BHMA A156.6	(2001) Architectural Doors and Trim
BHMA A156.9	(2001) Cabinet Hardware

HARDWOOD PLYWOOD & VENEER ASSOCIATION (HPVA)

HPVA HP-1	(2000) Standard for Hardwood and Decorative Plywood
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NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA LD 3	(2000) High-Pressure Decorative Laminates
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NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA IFH CH14	(1990) Wood Products (Industrial Fire Hazards Handbook)
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NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)

NIST PS 1	(1995) Construction and Industrial Plywood
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U.S. GENERAL SERVICES ADMINISTRATION (GSA)

FS A-A-1932	(Rev A) Lockset, Rim
FS FF-N-105	(Rev B; Int Am 4) Nails, Brads, Staples, and Spikes: Wire, Cut, and Wrought
FS MMM-A-130	(Rev B; Int Am 3) Adhesive, Contact
FS MMM-A-181	(Rev D) Adhesives, Phenol, Resorcinol, or Melamine Base

UNDERWRITERS LABORATORIES (UL)

UL 723	(2003e9) UL Standard for Safety Test for Surface Burning Characteristics of Building Materials
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WINDOWS AND DOOR MANUFACTURERS ASSOCIATION (WDMA)

NWWDA I.S. 1

(1999) Wood Flush Doors

1.2 SUBMITTALS

NOTE: Review submittal description (SD) definitions in Section 01330, "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. Include a columnar list of appropriate products and tests beneath each submittal description.

The following shall be submitted in accordance with Section 01330, "Submittal Procedures," in sufficient detail to show full compliance with the specification:

SD-02 Shop Drawings

Fabrication Drawings shall be submitted in accordance with paragraph entitled, "Drawings," of this section.

Installation drawings shall be submitted for the following items in accordance with paragraph entitled, "Installation Paneling," of this section.

- Hardwood Plywood Paneling
- Fire Retardant Paneling
- Counters, Cabinets, and Casework
- Wood Trim
- Plastic Laminate Counter Tops, Edges and Backsplashes
- Shelving

SD-04 Samples

Samples of the following shall be submitted in accordance with paragraph entitled, "Samples," of this section.

- Hardwood Plywood
- Pre-Finished Plywood
- Solid Wood Paneling
- Wood Trim
- Plastic Laminate
- Manufacturer's Standard Color Charts

SD-07 Certificates

Certificates of compliance shall be submitted for the following items showing certification of UL-labeled materials indicating the flame spread, fuel-contributed, and smoke-developed ratings and moisture content of hardwood paneling.

- Plywood Paneling
- Fasteners and Adhesives

Solid Wood
Counters, Cabinets, and Casework
Cabinet Hardware
Plastic Laminate
Priming and Sealing

1.3 DELIVERY, HANDLING, AND STORAGE

Contractor shall protect materials from damage during delivery, when stored, and during construction. Damaged and defective materials shall be removed and replaced with new.

Trim, paneling, cabinet work, and other finish millwork items shall be delivered and brought into the building only after the building has dried out, following the installation of wet materials, and when there is no danger of damage to materials due to excessive moisture.

Hardboard, plywood paneling and particleboard shall be stored in accordance with manufacturer's directions for at least 48 hours in the room in which they are to be installed. Plywood paneling shall be removed from cartons and stacked flat, with 1-inch 25 millimeter stripping under and between each pair of face-to-face panel. Face panels shall be separated by a slipsheet.

1.4 SITE CONDITIONS

Field measurements shall be taken before fabrication and installation of materials to verify and supplement the indicated dimensions.

1.5 DRAWINGS

Fabrication Drawings shall be submitted for finish carpentry materials consisting of fabrication and assembly details to be performed in the factory.

1.6 SAMPLES

The following samples shall be submitted:

At least three sample flitches from each log for architectural-grade, Hardwood Plywood.

Panels of Pre-Finished Plywood and Solid Wood Paneling 12 by 18 inches 300 by 450 millimeter.

Wood Trim 12-inches 300 millimeter.

Plastic Laminate 3 by 6 inches 80 by 150 millimeter.

Manufacturer's Standard Color Charts showing recommended colors and finishes for finish carpentry materials.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Plywood Paneling

2.1.1.1 Quality and Construction

Hardwood Plywood shall meet or exceed the requirements of HPVA HP-1, Grade A, with specialty grade characteristics as specified herein. Face veneers shall be manufactured with a 3-ply particleboard core or, at mill option, with a lumber or a veneer core. Face veneer shall match approved samples.

Panels shall be good one side. Backing veneer shall be HPVA HP-1, Backing Grade 4 or better, hardwood veneer suitable for balancing the face veneer. Exposed edges shall receive factory-applied edge banding of the same species as the face veneer.

Hardwood plywood panels shall be Type II bonded with water-resistant adhesives.

Moisture content of Hardwood Plywood Paneling shall be certified not to exceed 12 percent at the time of mill shipment.

Hardwood plywood paneling shall be polish sanded, sealed, and factory finished. Back surfaces shall be factory sealed. Cut edges shall be sealed at the site. Face veneers shall receive manufacturer's standard seal, stain-filler, and conversion varnish, applied in at least four separate coats to a total dry film thickness of 3 mils 0.076 millimeter. Color of finish shall match approved color sample.

Unless more stringent requirements are called for, flame spread shall not exceed 75 and smoke development shall not exceed 100 for hardwood plywood paneling used for interior finish.

2.1.1.2 Architectural Grade Hardwood Plywood

**NOTE: 3/4-Inch 20 Millimeter thickness does not
require backing.**

Architectural grade 3/4-inch 20 millimeter thick hardwood plywood shall have the following specialty grade characteristics:

**NOTE: Select type of veneer cut required. Oak,
walnut, and cherry are normally plain sliced. Birch
and maple are rotary cut. Verify type of cut with
manufacturer's literature.**

Face veneers shall be [plain sliced] [quarter sliced] [rotary sliced]
[rift cut] and conform to NWWDA I.S. 1.

Panel veneers shall be [book] [slip] matched.

Panel faces shall be [blueprint] [balance-sequence] matched and
numbered.

Panel faces shall be stock panels, lotted and numbered.

Architectural grade 3/4-inch 20 millimeter thick paneling shall be installed in the running match indicated by the panel numbers and in accordance with the manufacturer's instructions.

Panel shall be attached to furring and wall framing by concealed mechanical fasteners with no exposed face nailing.

2.1.1.3 Hardwood Plywood Paneling

**NOTE: This type of paneling must be backed by
gypsum wallboard to prevent drumming.**

Hardwood plywood paneling shall be selected 5-ply, 1/4-inch 8 millimeter thick, prefinished and backsealed material, face veneer, indicated species. Paneling shall meet or exceed the requirements of HPVA HP-1 for Grade A.

Panels shall be 48 inches 1220 millimeter wide by maximum required length for full height of wall.

Panel veneers shall be [book] [slip] [random] matched.

Panels shall be random matched with grooves [8] [16] inches [200] [400] millimeter on center and with [matching half-groove in long edges] [random intermediate grooves at veneer joints].

Panels shall be flush face, sequence matched between panels and book or slip matched within the panel, with joints and edges treated.

2.1.1.4 Fire Retardant Plywood Paneling

[Paneling shall be 3/4-inch 20 millimeter thick hardwood plywood, designated face veneer species, with either a treated wood particle core or a treated wood veneer core, bonded to untreated hardwood facing veneer and Backing Grade 4 back. Paneling shall be of veneer type as specified in the paragraphs entitled, "Quality and Construction" and "Architectural Grade Hardwood Plywood."]

[Paneling shall be 1/2-inch 15 millimeter thick hardwood plywood, designated face veneer species, with a treated-wood particle core bonded to untreated hardwood facing veneer and Backing Grade 4 back. Face veneers shall be random matched and V-grooved, with a matching half-groove in the long edges. Plywood shall be 48-inches 1220 millimeter wide by maximum required length for full height of wall.]

Core material shall be pressure impregnated in accordance with AASHTO M 133, ASTM D 1760, and NFPA IFH CH14. After treatment, core materials shall have a flame-spread rating of 25 or less when tested in accordance with ASTM E 84. Each panel shall be UL listed and shall bear Label A of UL 723.

2.1.1.5 Plywood Shelving, Utility Usage

Plywood for utility shelving and for utility usage shall be sanded interior grade plywood, 3/4-inch 20 millimeter thick, graded "B-D Int-DFPA" in accordance with NIST PS 1.

Utility shelving shall be 3/4-inch 20 millimeter thick particleboard conforming to ANSI A208.1, manufactured from wood flakes, particles, and shavings, and bonded with urea-formaldehyde resin.

2.1.2 Fasteners and Adhesives

2.1.2.1 Nails and Staples

All nails and staples, whether hand driven or mechanically driven, shall conform to FS FF-N-105.

2.1.2.2 Adhesives

Adhesives for interior millwork and trim shall be moisture-resistant type conforming to ASTM D 4689, Type II, water- and mold-resistant.

2.1.2.3 Wood Screws

Wood screws shall be carbon steel or brass, conforming to ANSI B18.6.1. Wood screws exposed to view shall be brass with an oval head with cross recess drive.

2.1.3 Solid Wood

2.1.3.1 Quality and Appearance

Solid wood finish materials shall be [Premium] [Custom] [Economy] Grade in accordance with the AWI Qual Stds Standards.

2.1.3.2 Millwork

Solid Wood Trim shall be 300-S-4, [Premium] [Custom] [Economy] Grade, and milled to the indicated profile. Moldings, joint tolerances, miters, construction quality, and surface finish shall conform to AWI Qual Stds requirements for "Standing and Running Trim & Rails."

Material shall be furnished in the maximum practical length for the end use.

Material shall be kiln-dried. Moisture content shall not exceed 12 percent at the time of delivery to the building site.

Corners shall be mitered, tightly butted, and secured.

Wood trim shall be carefully selected to match hardwood plywood paneling.

Exposed nailing shall be countersunk finishing nails. Countersunk holes shall be filled with matching wood filler or putty.

Wood trim shall be hand sanded at the jobsite to a smooth clean finish, free of machine or tool marks, abrasions, raised grain, or similar imperfections.

2.2 MANUFACTURED UNITS

2.2.1 Cabinets, Counters, and Casework

2.2.1.1 Materials and Construction

Hardwood plywood for cabinets, counters, shelving, and casework shall meet or exceed the requirements of HPVA HP-1, Grade A. Plywood shall be of specified thickness and face-veneer species, good two sides. Veneers shall be Type II bonded with water-resistant adhesives. Exposed edges shall receive factory-applied edge banding, same species as the face veneer.

Cabinets, counters, shelving, and casework shall be [premium] [custom] [economy] grade and mill built to the quality standards in the AWI Qual Stds for casework.

Flush cabinet doors shall be hardwood plywood with matching solid hardwood edges. Lipped doors shall be hardwood plywood with lumber core. Drawer fronts shall be at least 3/4-inch 20 millimeter thick solid wood or edge-banded hardwood plywood with veneer species to match cabinet.

Cabinet doors shall have lumber core or, at mill option, veneer core or particleboard edged with solid hardwood matching face veneer species.

NOTE: Select the first paragraph for highest quality appearance and for veneer matching with wall paneling. Select second paragraph for standard cabinet work.

[Cabinet plywood shall be prefinished and shall match hardwood wall paneling for type and cut of veneer.]

[Cabinet plywood shall be polish sanded, sealed, and ready for finishing. Face veneers shall be rotary cut or plain sliced with no sapwood allowed.]

2.2.1.2 Particleboard Core Materials

Wood particleboard shall be a mat-formed particleboard conforming to ANSI A208.1, Type 1 (interior) medium density, Grade 1-M-2. Board shall be laminated construction, composed of large wood flakes at the core and finer wood flakes at each surface. Flakes shall be coated and bonded with urea-formaldehyde resin under heat and pressure-formed into boards. When tested in accordance with ASTM D 1037 and in addition to complying with the properties listed in ANSI A208.1, the board shall have a minimum modulus of rupture of 2,400 psi 16,500 kilopascal; water absorption shall not exceed 15 percent in 24 hours; swelling thickness shall not exceed 6 percent in 24 hours; maximum moisture content 7 percent; and maximum linear expansion shall not exceed 0.15 percent.

Wood particleboard intended for use as exposed shelving or case work shall be sanded and sealed on both surfaces; exposed edges shall be trimmed with 3/4 by 3/8 inch 20 by 10 millimeter solid [poplar] [birch] [oak], with tongue-and-groove joint or butt joint glued to the particleboard with water-resistant glue.

2.2.1.3 Glass Shelving and Doors

Glass shelving and all-glass cabinet doors shall be 1/4-inch 8 millimeter thick, clear, polished, plate glass with ground and swiped edges conforming to ASTM C 1036, Type I, Class 1, Quality q3.

Finger pulls for all-glass doors shall be flush, threaded brass, chrome plated, 1-1/16-inch 27 millimeter diameter.

Glass cabinet doors in wood frames shall be at least 1/8-inch 3 millimeter thick, flat sheet clear glass, conforming to ASTM C 1036, Type I, Class 1, Quality q4.

2.2.2 Cabinet Hardware

NOTE: Drawings must indicate type and finish of cabinet hardware.

2.2.2.1 General Standards

Cabinet finish hardware shall conform to the types and styles of BHMA A156.9. Screws and attachments shall be finished to match the hardware item. Finishes shall be in accordance with BHMA A156.18.

Cabinet hardware shall match finish hardware, as specified in Section 08710, "Door Hardware."

2.2.2.2 Adjustable Shelf Supports and Rests

Surface-applied, adjustable shelf supports shall be B24062, wrought brass, nickel plated, with 1/2-inch 15 millimeter increment adjustment slots and with provision for screw fastening 6 inches 150 millimeter on vertical center.

Flush-applied, adjustable shelf supports shall be B24072, wrought brass, nickel plated with 1/2-inch 15 millimeter increment adjustment slots and with provision for screw fastening 6 inches 150 millimeter on vertical center.

Shelf rests shall be Type B240Q2, wrought brass, nickel plated. Rests shall have a minimum projection of 3/4 inch 20 millimeter and a minimum width of 9/16 inch 14 millimeter

Shelf rests for use in drilled holes shall be B84021, wrought steel, nickel plated with 1/4-inch 6 millimeter diameter pin, 3/8-inch 10 millimeter long, overall length 1-1/4 inches 32 millimeter

2.2.2.3 Cabinet Hinges

Cabinet hinges shall be [wrought steel] [brass], designated size and finish and shall conform to BHMA A156.9, as follows:

Full mortise, loose-pin hinges shall be B81021, 5-knuckle, button tip, wrought steel, finish 652 or 639.

Semiconcealed cabinet hinges for flush plywood gates and doors shall be B21201, 5-knuckle, button tip, finish 639 or 652.

Continuous hinges shall be B81491, wrought steel, chrome plated, 0.032 inch thick with 0.090-inch 0.81 millimeter thick with 2.3 millimeter steel pin, countersunk screw holes 2 inches 50 millimeter on center, width when open, 1-1/16 inches 27 millimeter.

Hinges for lipped door cabinets shall be B81382, 0.050-inch 0.81 millimeter wrought steel, with 2-inch 50 millimeter high barrel, fast button tip pins, mortise jamb leaf, finish 639 or 652.

2.2.2.4 Cabinet Catches

Cabinet catches shall be B83091, friction catch, with wrought steel case and strike and spring-cushioned rubber rollers.

Magnetic catches shall be B43141, Type 1, aluminum case, minimum 4-pound 20 newton pull.

2.2.2.5 Pulls

Door and drawer pulls shall be B12012, contemporary-design, cast bronze, 3-inch 80 millimeter centers, screw attached from inside of door or drawer.

Knob-type pulls shall be [B22132] [B42132], 1-1/2-inch 40 millimeter diameter, [brass] [anodized aluminum] knob and shank.

2.2.2.6 Drawer Slides

Drawer slides shall be B85072, ball bearing full extension drawer slides for attachment to each side of drawer. Rubber stops shall be provided at striking points.

2.2.2.7 Secret Gate Latch

Secret gate latches shall be cast bronze, Type 1091, single-acting or Type 1092, double-acting.

2.2.2.8 Closet Hanger Bars

Closet hanger bars shall be BHMA A156.6, Type L03131, wrought-brass, nickel-plated, telescoping tubing, 1/32-inch 0.8 millimeter minimum wall thickness. Seamless outer tube diameter shall be not less than 1 inch 25 millimeter. Each wall plate shall have at least two screw holes for attachment. Nickel-plated wrought steel center supports shall be provided for spans over 48 inches 1220 millimeter.

2.2.2.9 Locks

Locks shall conform to FS A-A-1932 and shall be all brass, BHMA A156.18, finish US26D, pin-tumbler type with dead bolt, as follows:

Drawer locks and cabinet locks shall be half-mortise, 5 or more pin tumblers, 1-1/8-inch 28 millimeter diameter cylinder, 5/16-inch 8 millimeter throw dead bolt with brass strike.

Sliding cabinet door locks shall be push-bolt type, 4-pin tumbler, 1-inch 25 millimeter diameter cylinder with brass cup strike.

2.2.2.10 Sliding Door Hardware

Track for all-glass sliding cabinet doors shall be a steel, zinc-plated, ball bearing assembly consisting of upper channel guide, shoes for glass doors, ball-bearing carrier, and a lower track.

Upper channel guides shall be 15/16-inch 24 millimeter wide by 5/8-inch 16 millimeter high and shall weigh a minimum of 41 pounds per 100 linear feet 19 kilogram per 30 meter.

Shoes for glass doors shall be designed for 1/4-inch 8 millimeter thick glass and shall be 7/16-inch 11 millimeter high with a curved underside, weighing a minimum of 13 pounds per 100 linear feet 6 kilogram per 30 meter.

Ball bearing carrier shall carry hardened steel ball bearings spaced 3 inches 80 millimeter on center with two-point suspension between shoe and anvil of lower track. Carrier shall weigh 26 pounds, 12 kilogram, minimum, per 100 linear feet 30 meter.

Lower track shall be 1-inch 25 millimeter high by 1-inch 25 millimeter wide double-channel track, designed with a center anvil in each channel to carry the ball bearings and shall weigh 75 pounds 34 kilogram, minimum, per 100 linear feet 30 meter.

2.2.3 Plastic Laminate

NOTE: Drawings must detail counter tops, fronts, edges and walls where plastic laminate surfacing is required. Self-edged, post-formed edges and corners must be indicated.

2.2.3.1 Counter Tops, Edges, and Backsplashes

[Counter top surface, edge, and backsplash shall be 0.050-inch 1.2 millimeter thick, high-pressure laminated, melamine plastic, general-purpose type, conforming to NEMA LD 3, Style D-decorative, Type I, Class 1.]

[Counter top surface, edges, and backsplash shall be 0.042-inch 1.0 millimeter thick, high-pressure laminated, melamine plastic, post-forming type, conforming to NEMA LD 3, Style D-decorative, Type II, Class 1.]

Color, pattern, and finish shall be as selected by the Contracting Officer from samples of the approved manufacturer(s).

2.2.3.2 Vertical Surfaces

Plastic Laminate surfaces for counter fronts, gates, and paneling shall be 0.031-inch 0.79 millimeter thick, high-pressure laminated, melamine plastic, vertical surface type, conforming to NEMA LD 3, Style D-decorative, Type I, Class 1. Color, pattern, and finish shall be as selected by the Contracting Officer from samples of the approved manufacturer(s).

2.2.3.3 Backing Sheets

NOTE: Backing sheets are designed for application to the back side of panels veneered with plastic laminate to prevent moisture absorption and to balance the construction of the panel and minimize warpage.

This paragraph must be included if plastic-laminate veneered panels are used in areas subject to moisture absorption and when the unsupported area exceeds 6 square feet 0.56 square meter and the core is less than 1 inch 25 millimeter thick.

In general, the backing sheet is not required for standard counter top construction with a minimum core thickness of one inch 25 millimeter. This material must be included only after evaluation of project requirements.

Backing sheets for plastic-laminate panels shall be 0.020-inch 0.51 millimeter minimum thick laminated plastic conforming to NEMA LD 3.

Backing sheets for plastic-laminate veneer panels shall be bonded to the core material with an adhesive as recommended by the plastic laminate manufacturer.

2.2.3.4 Adhesive

Adhesives for plastic-laminate panels shall be phenol-resorcinol and melamine conforming to FS MMM-A-181 or contact adhesive conforming to FS MMM-A-130.

2.3 FINISHING

2.3.1 Priming and Sealing

2.3.1.1 Plywood Paneling

Plywood paneling shall be factory finished, with back surfaces sealed.

2.3.1.2 Cabinets, Casework, and Trim

Mill-fabricated cabinets, casework, and solid wood trim [shall be delivered to the project unsealed and ready to receive the specified finish.] [scheduled for paint finish shall receive one mill-applied coat of clear sealer or prime paint of a type compatible with the final finish.] [scheduled for stain finish shall receive one mill-applied coat of approved stain-sealer of a type compatible with the final finish.] [scheduled for clear, natural finish shall receive one mill-applied coat of an approved clear sealer of a type compatible with the final finish.]

PART 3 EXECUTION

3.1 PREPARATION

Paneling and finished millwork items shall be installed only when temperature and humidity conditions approximate the interior conditions that will exist when the building is occupied. Relative humidity in the building at the time of installation of materials shall be within the

limits recommended by the manufacturer.

3.2 INSTALLATION PANELING

3.2.1 Hardwood Plywood Paneling

Arrange each panel in the room immediately before installation for best color and grain pattern and identify each panel with a number on the panel back to ensure proper location when installed.

[Panels shall be nailed to wall sheathing in accordance with manufacturer's directions for a combination gluing and semi concealed nailing method installation. Inside corners shall be butt joint, with one panel scribed, the other butted. Outside corners shall receive a hardwood-faced aluminum molding. Running joints shall be standard V-joint. Grooves or striations shall be nailed through and nail heads concealed with matching putty. Trim shall be solid hardwood of same species as paneling.]

[Panels shall be fastened to wall sheathing with contact cement without nails, in accordance with manufacturer's directions. Inside corners shall be butt joint, one panel scribed, the other butted. Outside corners shall receive a hardwood-faced aluminum molding. Joints shall be standard V joints. Trim shall be solid hardwood of same species as paneling.]

3.2.2 Fire Retardant Paneling

[Fire-retardant 3/4-inch 20 millimeter wood-core plywood paneling shall be installed over furring by means of concealed fasteners, in accordance with the manufacturer's directions and the indicated fire rating. Moldings and wood trim shall be provided.]

[Fire-retardant 7/16-inch 11 millimeter hardwood plywood paneling shall be installed over furring with an approved contact cement or other adhesive and finish nails in accordance with the manufacturer's printed instructions and the indicated fire rating. Inside and outside corner moldings, edge moldings, and cap moldings shall be provided.]

3.2.3 Wood Trim

Wood trim shall be set straight, plumb and level, closely fitted, and rigidly fastened. Nail heads of exposed work shall be countersunk and the holes filled with matching wood filler.

Joints shall be tight and formed to conceal shrinkage. Shop miters over 4 inches 100 millimeter shall be glued and splined.

Furring and framing to receive paneling shall be checked for plumb and true plane surface. Adjustments shall be made before proceeding with the work.

3.2.4 Counters, Cabinets, and Casework

Continuous back panels shall be provided for all counters, cabinets, shelving, and casework. Open-backed or skeleton-framed units will not be accepted. Back panels shall be 1/4-inch 8 millimeter minimum thick hardwood plywood or tempered hardboard when painted or concealed. Exposed or semi-exposed backs shall be hardwood plywood of the same veneer as the face of the cabinet.

Exposed backs of counters, desk fronts, partitions, and island or peninsula

cabinets shall be 3/4-inch 20 millimeter minimum thickness and shall be dadoed and glued under pressure into the cabinet sides.

Cabinet bases shall be constructed of 2 by 4-inch 50 by 100 millimeter framing, with toe space of the indicated height and depth. Cross rails shall be provided at cabinet ends, points of concentrated loads, and intervals not to exceed 24 inches 600 millimeter.

Cut out for sinks shall be of size indicated.

Exposed nailing shall be countersunk finishing nails; the countersunk holes shall be filled with a matching wood filler or putty. Staples will not be permitted in exposed cabinet or case work.

Exposed wood surfaces shall be machine sanded at the mill to the specified standard and then shall receive a final sanding at the site to a smooth clean finish, free of machine or tool marks, abrasions, raised grain, or similar imperfections.

3.2.5 Plastic Laminate Counter Tops, Edges and Backsplashes

Plastic laminate shall be bonded to substrate as specified in paragraph entitled, "Particleboard Core Materials," or to close-grained hardwood plywood, Graded DFPA "B-D," or better.

Core shall be at least 3/4-inch 20 millimeter thick for horizontal applications and at least 1/2-inch 15 millimeter thick for vertical application.

Plastic laminate shall be bonded to the approved core material with adhesives as recommended by the laminate manufacturer.

Exposed edges and ends of counter tops and backsplashes shall be [the same plastic laminate material specified for the counter top. Color shall match that for the counter top. Exposed edges shall be rounded to 1/32-inch 0.8 millimeter radius.] [edged with plastic laminate. Material shall match that for the counter top.] [trimmed with extruded aluminum T-moldings, 6063-T5 alloy, satin finish.]

3.2.6 Shelving

Shelving shall be constructed and assembled in accordance with AWI Qual Stds, specified grade.

Uprights and wall cleats shall be solid wood, 1 by 3-inch 25 by 80 millimeter minimum size, nailed to walls and to shelving with finishing nails.

-- End of Section --