

SECTION 12300 - MANUFACTURED CASEWORK

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings, General Conditions and Supplementary General Conditions and other Division-1 Specification Sections, apply to this Section.

DESCRIPTION OF WORK:

Extent of each type of manufactured plastic laminate casework is indicated on drawings and in schedules.

Work under this Section in general but not limited to the following:

Premanufactured Plastic Laminate Cabinets, typical UNO. (base and wall hung).

All built-in typical cabinetry and lavatory countertops.
High Pressure Decorative Laminate exteriors and Melamine interiors.

High Pressure Decorative Laminate Countertops

Wood doors are specified within Division 8.

Sinks and Fittings for Piping System within Division 15.

QUALITY ASSURANCE:

AWI Quality Standard: Comply with applicable requirements of "Architectural Woodwork Quality Standards" published by the Architectural Woodwork Institute (AWI), except as otherwise indicated.

Millwork Contractor: Casework Contractor shall be approved by Architect on basis of quality of work performed during at least five (5) years of manufacturing: capability to meet requirements of these Specifications; reputation of performing satisfactory work on time; and completion of at least three satisfactory installations on project of comparable size.

SUBMITTALS:

Product Data: Submit manufacturer's product data for each product and process specified as work of this section and incorporated into items of architectural woodwork during fabrication, finishing, and installation.

Shop Drawings: Submit shop drawings for all items fabricated for this project and submit manufacturer's cuts, dimensioned plans, elevations, and/or details for all stock items. Shop drawings shall locate all grounds, blocking, and other anchoring devices required to properly secure work.

Samples: Submit the following samples:

Plastic laminate, 8" x 10" for each type, color, pattern and surface finish.

~~Solid Surfacing, 8" x 8" for each type, color, pattern, and surface finish.~~

DELIVERY, STORAGE AND HANDLING:

Protect casework during transit, delivery, storage and handling to prevent damage, soiling and deterioration.

Do not deliver casework, until painting, wet work, grinding and similar operations which could damage, soil or deteriorate casework have been completed in installation areas. If, due to unforeseen

circumstances, woodwork must be stored in other than installation areas, store only in areas meeting requirements specified for installation areas.

PROJECT CONDITIONS:

Maintain temperature and humidity in installation area as required to maintain moisture content of installed casework within a 1.0 percent tolerance of optimum moisture content, from date of installation through remainder of construction period. Require Woodwork Manufacturer to establish optimum moisture content and required temperature and humidity condition.

PART 2 - PRODUCTS

MANUFACTURED CASEWORK:

Medium Density Fiberboard:

Provide medium density fiberboard for all doors, drawer fronts, and exposed ends.

Fiberboard shall be manufactured from lignocellulosic fibers combined with a synthetic resin or other suitable binder. Panels shall be compressed to a density of 31 pounds per cubic foot to 50 pounds per cubic foot in a hot press by a process in which substantially the entire inter-fiber bond is created by the added binder. Density shall be determined in accordance with Section 124 and 125 of ASTM D 1037 with the following exceptions: (1) two specimens shall be used and specimen size shall be 12 inches by 12 inches, and (2) the density shall be calculated based on the weight and volume at time of test.

Squareness: The two diagonal measurements of a trimmed 4 foot by 8 foot panel shall not vary more than 1/8 inch when trimmed length and width satisfy tolerance requirements.

Straightness: Trimmed edges shall conform to a straight line extending from corner to corner on the same edge, with no deviation greater than 1/16 inch.

Compliance with the trimmed width and length tolerance given above shall be determined in accordance with Section 7 of ASTM D 1037, Standard Methods of Evaluating the Properties of Wood-Base Fiber and Particle Panel Materials.

Particle Board Core: Where indicated or required, provide "Tem-Stock" particle board as manufactured by Temple-Eastex or approved equal and in accordance with the following:

Density - 48#/cu. ft.
Modulus of Rupture - 1,800 psi
Modulus of Elasticity - 300,000 psi
Internal Bond - 80 psi
Linear Expansion Max. Average .35%
Screwholding Face - 225#
Screwholding Edge - 190#
Length and Width Tolerance - +/- 1/8"
Thickness Tolerance Panel Average - +/- 0.010"

Melamine: Melamine Laminated Particle Board: Thermosetting melamine resin impregnated decorative overly bonded to 45 lbs. density particle board.

Particle board shall be of balanced construction with moisture content not to exceed 8%. All particle board shall meet or exceed the requirements for its type and classification under Commercial Standard CS-236 or Federal Specification LLL-B-800A. Melamine laminate shall be 9 to 11 mils in thickness, 62% resin content, colorfast and shall meet or exceed ASTM D-L-300 and NEMA Test LSI-2.06.

The following standards and test shall apply:

Heat Resistance - NEMA LD3-306

Boiling Water - NEMA LD3-305
Impact - NEMA LD3-303
Wear - NEMA LD3-301
Stains - NEMA LD3-309

Provide white colored melamine laminate for **semi-exposed cabinet interiors and interiors of all open cabinets**. See cabinet elevation drawings for exact finishes required.

Melamine laminate particleboard shall be as manufactured by Funder America, Inc., Mocksville, North Carolina, Masonite Corporation, Tarboro, North Carolina, or approved equal.

Hardboard: Hardboard shall meet or exceed Commercial Standards CS-251 and Federal Specifications LLL-B-00810. Tempered hardboard shall be 1/4 inch thick - smooth both sides. Hardboard exposed one side shall be 1/4 inch thick, prefinished in white color to match cabinet interior. Opposite face prefinished with neutral color balance coating.

Edging:

Solid, high impact, purified, color-thru, acid resistant, **3 mm PVC** edging machine-applied with hot melt adhesives, automatically trimmed for uniform appearance. Edging to match or be compatible with face material as judged by the architect.

Flat edge for cabinet body in color-match laminate.

CABINET HARDWARE AND ACCESSORY MATERIALS:

General: Provide cabinet hardware and accessory materials associated with architectural cabinets, except for items which are specified in Division-8 section "Finish Hardware".

CABINET HARDWARE SCHEDULE:

Cabinet Door Hardware: Provide hinges, catches and pulls of types indicated, to accommodate each door size and style.

For concealed hardware provide manufacturer's standard finish which complies with product class requirements of ANSI/BHMA A156.9

Hinges - 3/4" thick. doors less than 3'-0" high - Totally concealed hinges of all metal construction as manufactured by European or other approved equal, 120 degree swing. Fully adjustable for clockwise, counterclockwise, toe in and out door alignment. Doors shall be self-closing, and fitted with silencer bumpers.

Hinges - 3/4" thick. doors 3'-0" and taller – Same as above. (use 2 pair U.N.O.)

Pulls - one per door – shall be brushed aluminum 3-1/2 inches by 1/2" wide flat "C" pull.

Drawer Hardware: Provide slides and pulls of types indicated, to accommodate each drawer size and style.

Slides - Equip each drawer with side-mounted, full-extension, ball bearing, drawer slides with load capacity of 125 lbs. per **#8400 series by Knape & Vogt** or equal.

Pulls - one per door -. shall be brushed aluminum 3-1/2 inches by 1/2" wide flat "C" pull.

Locks - Where noted on drawings, provide standard pin-type or disc-type (5 pins or discs) tumbler locks, keyed individually except as otherwise indicated. PROVIDE AT A MINIMUM (whether shown on drawings or not) ONE LOCK PER 10 DOORS AND DRAWERS OR ONE LOCK DOOR AND DRAWER PER CABINET SECTION – WHICHEVER IS GREATER.

Shelf Supports: Where shelving is indicated, provide adjustable slotted-type standards and brackets to support shelves with uniform 40-lb per sq. ft. loading.

Standards - Four standards per "stack" of shelves - #255 by Knape & Vogt or equal.

Supports - Four supports per shelf - #256 by Knape & Vogt or equal.

NOTE: Contractor's option to bid "line boring" in lieu of cleats for shelving.

Exposed Hardware Finish: Provide exposed hardware with ANSI Code, "**Satin Stainless/Brushed Aluminum**".

Hardware Standard: Comply with ANSI/BHMA A156.9 "American National Standard for Cabinet Hardware" for items indicated by reference to BHMA numbers or referenced to this standard.

ARCHITECTURAL CABINET TOPS:

Quality Standard: Comply with AWI Section 400 and its Division 400C.

WIC Section 14 - "Casework - Conventional".

WIC Section 16 - "Laminated Plastic Countertops, Splashes and Wall Paneling".

Type of Top: High Pressure Decorative Laminate:

Grade: Premium.

Laminate Cladding for Horizontal/Vertical Surfaces: High pressure decorative laminate complying with NEMA LD 3 and as follows:

Colors, Patterns, and Finishes: As indicated or, if not otherwise indicated, as selected from laminate manufacturer's standard products in the following categories:

Grade: PF-42 (0.042" nominal thickness).

Edge Treatment: **3mm PVC Edge banding.**

Manufacturer: Nevamar, Formica, Wilson-Art or approved equal. Color shall be selected by the Architect from Manufacturer's Standard Colors.

FASTENERS AND ANCHORS:

Screws: Select material, type, size and finish required for each use. Comply with FS FF-S-111 for applicable requirements.

For metal framing supports, provide screws as recommended by metal framing manufacturer.

Nails: Select material, type, size and finish required for each use. Comply with FS FF-N-105 for applicable requirements.

Provide Solid Blocking - as required within framing for secure anchorage to supporting wall.

FABRICATION:

Cabinet Base: Wood Base, toe space, installed as an integral part of base cabinets and wall unit attached with screws in a workmanlike manner.

Cabinet Top and Bottom - Wall and Base:

Base cabinet bottoms to be white colored melamine laminated on two sides, 3/4 inches thick.

Wall cabinet bottoms and tops shall be 3/4" thick.

Exterior exposed wall cabinet bottoms shall be white colored melamine both sides. Assembly devices to be concealed on bottom side of wall cabinets.

Exposed body edges shall be matching PVC tape in thickness from 5 mm to 3 mm.

Cabinet Ends:

White colored melamine laminated particle board on interior face, high pressure laminate on exterior face, 3/4 inches thick. Ends shall be drilled for adjustable shelves, 32 mm on center.

Exposed exterior cabinets ends shall be laminated with PVC as specified above.

Exposed edges to be matching 3mm thick PVC tape.

Fixed and Adjustable Shelves:

White colored melamine laminated particle board two sides. Leading exposed edge of shelves shall be edged with colored PVC.

Thickness: 3/4 inch standard shelving to 36 inches wide.

Cabinet Backs:

Standard cabinet back shall be 1/4 inch thick, hardboard, prefinished matching color on semi-exposed or exposed side, for use on all cabinets with or without doors. Back shall be set in by Dado and secured to the top stretcher.

Exposed exterior backs shall be 3/4 inch particle board faced with matching laminate as specified above.

Doors and Drawer Fronts:

Plastic laminated doors and drawer fronts shall be 7/8 inches thick for all hinged and sliding doors. Core material shall be 3/4 inch thick, 45 lb. density particle board bonded on exterior with high pressure laminate and with white melamine on interior face. Drawer fronts and hinged doors are to overlay the cabinet body. Maintain a maximum 1/8" reveal between pairs of doors, between door and drawer front, or between multiple drawer fronts within the cabinet.

Drawers (Self Closing Type):

Drawer fronts shall be 7/8" and applied to melamine wrapped box drawers with screws. Drawer back and sides are to be 1/2" thick. Drawer bottoms are 1/4" thick hardboard in matching color.

Particle board shall be uniform density and meet the following minimum standards:

- Screw Holding Face - 300 lbs.
- Screw Holding Edge - 200 lbs.
- Deflection at Rupture - .20"
- Modulus of Elasticity - 450,000 psi.
- Internal Bond - 90 psi.

Shelves:

Shelf shall be 3/4" thick melamine covered particle board where indicated on the Drawings. Provide bracket support as indicated on the Drawings. Provide all accessories required for a complete installation. Note that exposed shelves shall be HPL faced.

PART 3 - EXECUTION

PREPARATION:

Condition casework to average prevailing humidity conditions in installation areas prior to installing.

Prior to installation of architectural casework, examine shop fabricated work for completion, and complete work as required, and removal of packing.

Inspection: Before installation begins, inspect all areas to receive work as follows:

For any deficiency which might prevent satisfactory installation of casework.

For presence and proper positioning of grounds, blocking, and other anchoring devices built into work as required by approved casework shop drawings.

Do not start work until deficiencies of surfaces to receive work have been corrected. Beginning of installation in any given area shall constitute acceptance of that area as satisfactory to receive this work. Casework manufacturer shall not be accountable for building construction deficiencies such as straightness of walls and inordinately irregular floor levels. General Contractor shall be responsible for correcting these deficiencies.

INSTALLATION:

Field measure for cabinets prior to installation.

Install casework plumb, level, true and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8" in 8'-0" for plumb and level (including tops); and with no variations in flushness of adjoining surfaces.

Scribe and cut work to fit adjoining work, and refinish cut surfaces or repair damaged finish at cuts.

Anchor casework to anchors or blocking built-in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing as required for a complete installation. Except where prefinished matching fasteners heads are required, use fine finishing nails for exposing nailing, countersunk and filled flush with woodwork, and matching final finish where transparent finish is indicated.

Cabinets: Install without distortion so that doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete the installation of hardware and accessory items as indicated.

Tops: Anchor securely to base units and other support systems as indicated.

ADJUSTMENT, CLEANING, FINISHING AND PROTECTION:

Repair damaged and defective casework where possible to eliminate defects functionally and visually; where not possible to repair replace casework. Adjust joinery for uniform appearance.

Clean, lubricate and adjust hardware.

Clean casework on exposed and semi-exposed surfaces. Touch-up shop-applied finishes to restore damaged or soiled areas.

Complete the finishing work specified as work of this section, to whatever extent not completed at shop or prior to installation of casework.

Provide final protection and maintain conditions, in a manner acceptable to Fabricator and Installer, which ensures architectural woodwork being without damage or deterioration at time of substantial completion.

CABINET HARDWARE SCHEDULE:

Cabinet Door Hardware: Provide hinges, catches and pulls of types indicated, to accommodate each door size and style.

For concealed hardware provide manufacturer's standard finish which complies with product class requirements of ANSI/BHMA A156.9

Hinges - 3/4" thick. doors less than 3'-0" high - Totally concealed hinges of all metal construction as manufactured by European or other approved equal, 120 degree swing. Fully adjustable for clockwise, counterclockwise, toe in and out door alignment. Doors shall be self-closing, and fitted with silencer bumpers.

Hinges - 3/4" thick. doors 3'-0" and taller – Same as above. (use 2 pair U.N.O.)

Pulls - one per door - #345960 Pull by Stanley or equal. (3-1/2" x 1/2" wide "C" pull)

Drawer Hardware: Provide slides and pulls of types indicated, to accommodate each drawer size and style.

Slides - Equip each drawer with side-mounted, full-extension, ball bearing, drawer slides with load capacity of 125 lbs. per **#8400 series by Knape & Vogt** or equal.

Pulls - one per door - #345960 Pull by Stanley or equal. (3-1/2" x 1/2" wide "C" pull)

Locks - Where noted on drawings, provide standard pin-type or disc-type (5 pins or discs) tumbler locks, keyed individually except as otherwise indicated.

Shelf Supports: Where shelving is indicated, provide adjustable slotted-type standards and brackets to support shelves with uniform 40-lb per sq. ft. loading.

Standards - Four standards per "stack" of shelves - #255 by Knape & Vogt or equal.

Supports - Four supports per shelf - #256 by Knape & Vogt or equal.

NOTE: Contractor's option to bid "line boring" in lieu of cleats for shelving.

Exposed Hardware Finish: Provide exposed hardware with ANSI Code "Satin Aluminum" – brushed finish; where not available, provide finish to match as near as possible (within standard colors) to "Satin Stainless", US32D finish.

END OF SECTION 12300