

SECTION 06402

ARCHITECTURAL WOODWORK

1 PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Wood cabinets (casework).
 - 2. Cabinet tops (countertops).
 - 3. Interior miscellaneous ornamental items.
- B. Related Sections: The following sections contain requirements that relate to this section:
- C. Division 6 Section "Rough Carpentry" for furring, blocking, and other carpentry work that is not exposed to view.
- D. Division 6 Section "Finish Carpentry" for carpentry exposed to view that is not specified in this section.

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Shop drawings showing location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Firm experienced in successfully producing architectural woodwork similar to that indicated for this Project, with sufficient production capacity to produce required units without causing delay in the Work.
- B. Single-Source Responsibility: Arrange for production by a single firm of architectural woodwork.
- C. Installer Qualifications: Arrange for installation of architectural woodwork by a firm that can demonstrate successful experience in installing architectural woodwork items similar in type and quality to those required for this project.
- D. AWI Quality Standard: Comply with applicable requirements of "Architectural Woodwork Quality Standards" published by the Architectural Woodwork Institute (AWI) except as otherwise indicated.

- E. Hardware Coordination: Coordinate cabinet shop drawings and fabrication with hardware requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Protect woodwork during transit, delivery, storage, and handling to prevent damage, soilage, and deterioration.
- B. Do not deliver woodwork until painting, wet work, grinding, and similar operations that could damage, soil, or deteriorate woodwork have been completed in installation areas. If woodwork must be stored in other than installation areas, store only in areas whose environmental conditions meet requirements specified in "Project Conditions."

1.6 PROJECT CONDITIONS

- A. Environmental Conditions: Obtain and comply with Woodwork Manufacturer's and Installer's coordinated advice for optimum temperature and humidity conditions for woodwork during its storage and installation. Do not install woodwork until these conditions have been attained and stabilized so that woodwork is within plus or minus 1.0 percent of optimum moisture content from date of installation through remainder of construction period.
- B. Field Measurements: Where woodwork is indicated to be fitted to other construction, check actual dimensions of other construction by accurate field measurements before manufacturing woodwork; show recorded measurements on final shop drawings. Coordinate manufacturing schedule with construction progress to avoid delay of Work.

2 PART 2 PRODUCTS

2.1 MATERIALS

- A. General: Provide materials that comply with requirements of the AWI woodworking standard for each type of woodwork and quality grade indicated and, where the following products are part of woodwork, with requirements of the referenced product standards, that apply to product characteristics indicated:
 - 1. High Pressure Laminate: NEMA LD 3.
 - 2. Particleboard: ANSI A208.1, 45pcf density
 - 3. Softwood Plywood: PS 1, AA grade.
- B. Formaldehyde Emission Levels: Comply with formaldehyde emission requirements of each voluntary standard referenced below:
 - 1. Particleboard: NPA 8.
 - 2. Hardwood Plywood: HPMA FE.

2.2 FABRICATION, GENERAL

- A. Wood Moisture Content: Comply with requirements of referenced quality standard for moisture content of lumber in relation to relative humidity conditions existing during time of fabrication and in installation areas.

- B. Fabricate woodwork to dimensions, profiles, and details indicated. Ease edges to radius indicated for the following:
 - 1. Corners of cabinets and edges of solid wood (lumber) members less than 1 inch in nominal thickness: 1/16 inch.
- C. Complete fabrication, including assembly, finishing, and hardware application, before shipment to project site to maximum extent possible. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
- D. Factory-cut openings, to maximum extent possible, to receive hardware, appliances, plumbing fixtures, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Smooth edges of cutouts and, where located in countertops and similar exposures, seal edges of cutouts with a water-resistant coating.

2.3 LAMINATE CLAD CABINETS

- A. Quality Standard: Comply with AWI Section 400 and its Division 400B "Laminate Clad Cabinets."
 - 1. Grade: Custom.
- B. AWI Type of Cabinet Construction: Flush overlay.
- C. Case Body: All joints glued.
 - 1. Top, Bottom and Fixed Horizontals: Lock jointed, dadoed or rabbeted into ends/dividers and screwed or doweled at approximately 2 1/2" oc.
 - 2. Back: Dadoed or rabbeted into top, sides and bottom.
 - 3. Fixed Small Compartment Dividers: Dadoed.
- D. Drawers with Sub Front: All joints glued.
 - 1. All corners: Dovetailed or doweled; or front corners dovetailed and back corners lock jointed.
 - 2. Bottom: Dadoed into all four sides.
 - 3. Front: Screwed into subfront.
 - 4. Top Edges: Box-rounded.
- E. Laminate Cladding: High pressure decorative laminate complying with the following requirements:
 - 1. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:
 - 2. Provide selections made by Architect from laminate manufacturer's full range of standard colors and finishes.
- F. Laminate Grade for Exposed Surfaces: Provide laminate cladding complying with the following requirements for type of surface and grade.

1. Horizontal Surfaces Other Than Tops: GP-50 (0.050-inch nominal thickness).
2. Vertical Surfaces: GP-50 (0.050-inch nominal thickness).
3. Edges: GP-50 (0.050-inch nominal thickness).

G. Provide backer sheet on each plastic laminated item:

1. Semi exposed: Grade C120 (0.020 inch nominal thickness).
2. Concealed: Grade BK20 (0.020 inch nominal thickness).

2.4 WOOD CABINETS

A. Quality Standard: Comply with AWI Section 400 and its Division 400A "Wood Cabinets."

1. Grade: Custom.

B. AWI Type of Cabinet Construction: Reveal overlay.

C. Case Body: All joints glued.

1. Top, Bottom and Fixed Horizontals: Lock jointed, dadoed or rabbeted into ends/dividers and screwed or doweled at approximately 2 1/2" oc.
2. Back: Dadoed or rabbeted into top, sides and bottom.
3. Fixed Small Compartment Dividers: Dadoed.

D. Drawers with Sub Front: All joints glued.

1. All corners: Dovetailed or doweled; or front corners dovetailed and back corners lock jointed.
2. Bottom: Dadoed into all four sides.
3. Front: Screwed into subfront.
4. Top Edges: Box-rounded.

E. Stiles and Rails: 2-1/2" wide x 3/4" thick, premium White Maple.

F. Door Panels: Raised panels, premium White Maple.

2.5 CABINET HARDWARE AND ACCESSORY MATERIALS

A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets.

B. Cabinet Hardware Schedule: Refer to schedule at end of this section for cabinet hardware required for architectural cabinets.

C. 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.

D. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with ANSI/BHMA A156.18 for BHMA code number indicated.

1. Brushed Aluminum.

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

2.6 ARCHITECTURAL CABINET TOPS (COUNTERTOPS)

- A. Quality Standard: Comply with AWI Section 400 and its Division 400C.
- B. Type of Top: High pressure decorative laminate complying with the following:
 - 1. Grade: Custom.
- C. Core: Veneer core, spruce faced plywood or particleboard.
- D. Laminate Cladding for Horizontal Surface: High pressure decorative laminate as follows:
 - 1. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:
 - 2. Provide selections made by Architect from manufacturer's full range of standard colors and finishes.
 - 3. Grade: GP-50 (0.050-inch nominal thickness).
- E. Edge Treatment: Same as laminate cladding on horizontal surfaces.

2.7 INTERIOR MISCELLANEOUS ORNAMENTAL ITEMS FOR TRANSPARENT FINISH

- A. Quality Standard: Comply with AWI Section 700.
- B. Lumber Species: Match species and cut indicated for other types of transparent finished architectural woodwork located in same areas of building unless otherwise indicated.

2.8 INTERIOR MISCELLANEOUS ORNAMENTAL ITEMS FOR OPAQUE FINISH

- A. Quality Standard: Comply with AWI Section 700.
- B. Lumber Species: Any closed-grain hardwood listed in referenced woodworking standard.

2.9 FASTENERS AND ANCHORS

- A. Screws: Select material, type, size, and finish required for each use. Comply with FS FF-S-111 for applicable requirements.
- B. For metal framing supports, provide screws as recommended by metal framing manufacturer.
- C. Nails: Select material, type, size, and finish required for each use. Comply with FS FF-N-105 for applicable requirements.
- D. Anchors: Select material, type, size, and finish required by each substrate for secure anchorage. Provide nonferrous metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed steel or lead expansion bolt devices for drilled-in-place anchors. Furnish inserts and anchors, as required, to be set into concrete or masonry work for subsequent woodwork anchorage.

2.10 FACTORY FINISHING OF INTERIOR ARCHITECTURAL WOODWORK

- A. Quality Standard: Comply with AWI Section 1500 unless otherwise indicated.
- B. General: The entire finish of interior architectural woodwork is specified in this section, regardless of whether factory applied or applied after installation.
- C. Factory Finishing: To the greatest extent possible, finish architectural woodwork at factory. Defer only final touch-up, cleaning, and polishing until after installation.
- D. General: The primary and prefinishing (if any) of interior architectural woodwork required to be performed at factory is specified in this section. Refer to Division 9 Section "Painting" for final finishing of installed architectural woodwork and for material and application requirements of prime coats for woodwork not specified to receive final finish in this section.
- E. Preparations for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces and similar preparations for finishing of architectural woodwork, as applicable to each unit of work.
- F. Transparent Finish for Closed-Grain Woods: Comply with requirements indicated below for grade, finish system, staining, effect, and sheen.
 - 1. Grade: Custom.
 - 2. AWI Finish System #5: Catalyzed polyurethane.
 - 3. Staining: Match approved sample for color.
 - 4. Sheen: Dull satin 15-20 deg.

2.11 MANUFACTURERS

- A. Acceptable Manufacturers: Subject to compliance with requirements, provide products of one of the following:
 - 1. Plastic Laminate:
 - a. Formica Corp.
 - b. Nevamar Corp.
 - c. Ralph Wilson Plastics Co.
 - d. Pionite
 - 2. Plastic Overlay Panel Products:
 - a. Simpson Timber Co.
 - b. Sel-Ply Div./Medford Corp.
 - 3. Cabinet Hardware:
 - a. National Lock Co.
 - b. EPCO.
 - c. Grant.
 - d. Knape & Vogt.
 - e. Ives.
 - f. Stanley.
 - g. Stylemark.

- h. Webber Knapp.
- 4. Stains and Varnishes:
 - a. Fuller O'Brien /Div. ICI Paints.
 - b. Glidden /Div. ICI Paints.
 - c. Pratt & Lambert.

3 PART 3 EXECUTION

3.1 PREPARATION

- A. Condition woodwork to average prevailing humidity conditions in installation areas before installing.
- B. Deliver concrete inserts and similar anchoring devices to be built into substrates well in advance of time substrates are to be built.
- C. Before installing architectural woodwork, examine shop-fabricated work for completion and complete work as required, including back priming and removal of packing.

3.2 INSTALLATION

- A. Quality Standard: Install woodwork to comply with AWI Section 1700 for same grade specified in Part 2 of this section for type of woodwork involved.
- B. Install woodwork plumb, level, true, and straight with no distortions. Shim as required with concealed shims. Install to a tolerance of 1/8 inch in 8'-0" for plumb and level (including tops) and with no variations in flushness of adjoining surfaces.
- C. Scribe and cut woodwork to fit adjoining work and refinish cut surfaces or repair damaged finish at cuts.
- D. Anchor woodwork 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 fastener heads are required, use fine finishing nails for exposed nailing, countersunk and filled flush with woodwork and matching final finish where transparent finish is indicated.
- E. Standing and Running Trim and Rails: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to the greatest extent possible. Stagger joints in adjacent and related members. Cope at returns and miter at corners.
- F. 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. Maintain veneer sequence matching (if any) of cabinets with transparent finish.
- G. Tops: Anchor securely to base units and other support systems as indicated.

- H. Complete the finishing work specified in this section to whatever extent not completed at shop or before installation of woodwork.

3.3 ADJUSTMENT AND CLEANING

- A. Repair damaged and defective woodwork where possible to eliminate defects functionally and visually; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.
- B. Clean, lubricate, and adjust hardware.
- C. Clean woodwork on exposed and semiexposed surfaces. Touch up factory-applied finishes to restore damaged or soiled areas.

3.4 PROTECTION

- A. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensures that woodwork is being without damage or deterioration at time of Substantial Completion.

3.5 HARDWARE SCHEDULE

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| A. | Cabinet door hinges | Concealed type pivot hinges, Stanley or equal. |
| B. | Door and drawer pulls | Wire type, 4" face dimension, Stanley or equal. |
| C. | Drawer glides | Full extension, 150lb cap. |
| D. | Door latches | Magnetic type. |
| E. | Locks | Heavy duty institutional pin tumbler type, National Lock M2-0106 |
| F. | Wall Standards and Brackets | See Section 06402, 2.7 Adjustable Wood Shelving |

...END OF SECTION