

SECTION 06402 - INTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the 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. Interior standing and running trim.
 - 2. Wood cabinets (casework).
 - a. Columbia Forest Products
P.O. Box 1780
Klamath Falls, OR 97601
 - 3. Solid surfacing material countertops.
 - a. Enviroglas Products Inc.
3941 Legacy Dr. Suite 204-211b
Plano, TX 75023
 - 4. Flush wood paneling and wainscots.
 - a. Department of Interior Architecture
Kansas State University
Manhattan, KS 66503
 - 5. Interior ornamental work.
 - a. Reclaimed Barn Lumber
Bymaster Double R Ranch
Vineta, OK 64301
 - 6. Interior frames and jambs.
 - a. Lowen casework
(see section 081423)
 - 7. Shop finishing of woodwork.

1.3 DEFINITIONS

- A. Interior architectural woodwork includes wood furring, blocking, shims, and hanging strips for installing woodwork items unless concealed within other construction prior to woodwork installation.
- B. Rough carriages for stairs are a part of interior architectural woodwork. Platform framing, headers, partition framing, and other rough framing associated with stairwork are specified in Division 6 Section "Rough Carpentry."

1.4 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Product data for each type of product and process specified and incorporated into items of architectural woodwork during fabrication, finishing, and installation.

- C. Fire-retardant-treatment data for material treated to reduce combustibility. Include certification by treating plant that treated materials comply with requirements.
- D. Shop drawings showing location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
 - 1. Show details full size.
 - 2. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcing specified in other Sections.
 - 3. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, soap dispensers, and other items installed in architectural woodwork.
 - 4. Show veneer leaves with dimensions, grain direction, exposed face, and an identification number indicated for each leaf. Identification number shall indicate the flitch and the sequence within the flitch for each leaf.
 - 5. Apply WIC Certified Compliance Label to first page of shop drawings.
- E. Samples for initial selection of the following in the form of manufacturer's color charts consisting of actual units or sections of units showing the full range of colors, textures, and patterns available for each type of material indicated.
 - 1. Shop-applied transparent finishes.
 - 2. Shop-applied opaque finishes.
 - 3. Plastic laminates.
 - 4. Thermoset decorative overlays.
 - 5. Solid surfacing materials.

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 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 Limitations: Do not deliver or install woodwork until building is enclosed, wet-work is completed, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels during the remainder of the construction period.
- B. Environmental Limitations: Obtain and comply with woodwork fabricator'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 will be within plus or minus 1.0 percent of optimum moisture content from date of installation through remainder of construction period.
- C. Field Measurements: Where woodwork is indicated to be fitted to other construction, check actual dimensions of other construction by accurate field measurements before fabrication, and show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
 - 1. Verify locations of concealed framing, blocking, reinforcements, and furring that support woodwork by accurate field measurements before being enclosed. Record measurements on final shop drawings.

2. Where field measurements cannot be made without delaying the Work, guarantee dimensions and proceed with fabricating woodwork without field measurements. Provide allowance for trimming at site and coordinate construction to ensure that actual dimensions correspond to guaranteed dimensions.

1.7 COORDINATION

- A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that interior architectural woodwork can be supported and installed as indicated.

PART 2 - PRODUCTS

2.1 WOODWORK FABRICATORS

- A. Available Fabricators: Subject to compliance with requirements, fabricators offering interior architectural woodwork that may be incorporated in the Work include, but are not limited to, the following:
- B. Fabricators: Subject to compliance with requirements, provide interior architectural woodwork by one of the following:

2.2 MATERIALS

- A. General: Provide materials that comply with requirements of the AWI quality standard for each type of woodwork and quality grade indicated and, where the following products are part of interior woodwork, with requirements of the referenced product standards that apply to product characteristics indicated:
- B. General: Provide materials that comply with requirements of the WIC quality standard for each type of woodwork and quality grade indicated, unless otherwise indicated.
 1. Hardboard: AHA A135.4.
 2. Medium-Density Fiberboard: ANSI A208.2.
 3. Particleboard: ANSI A208.1, Grade M-2.
 4. Softwood Plywood: PS 1.
 5. Hardwood Plywood and Face Veneers: HPVA HP-1.
- C. Formaldehyde Emission Level for Medium-Density Fiberboard: Comply with requirements of NPA 9.
- D. Fiberboard: Medium-density fiberboard made without formaldehyde and complying with ANSI A208.2.
 1. Product: Subject to compliance with requirements, provide Medite II by Medite Corp.
- E. Particleboard: ANSI A208.1, Grade M-2 made with phenol-formaldehyde resins.
- F. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated, or if not indicated, as required by woodwork quality standard.
 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering high-pressure decorative laminates that may be incorporated in the Work include, but are not limited to, the following:
 2. Manufacturer: Subject to compliance with requirements, provide high-pressure decorative laminates by one of the following:

- a. Formica Corporation.
- b. Laminart.
- c. Nevamar Corp.
- d. Pioneer Plastics Corp.
- e. Westinghouse Electric Corp.; Specialty Products Div.
- f. Ralph Wilson Plastics Co.

2.3 CABINET HARDWARE AND ACCESSORY MATERIALS

- A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets, except for items specified in Division 8 Section "Door Hardware."
- B. Cabinet Hardware Schedule: Refer to schedule at end of this Section for cabinet hardware required for architectural cabinets.
- C. Hardware Standard: Comply with BHMA A156.9 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 BHMA A156.18 for BHMA code number indicated.
 - 1. Dark, Oxidized, Satin Bronze, Oil Rubbed, on Bronze Base: BHMA 613 and matching Architect's sample.
 - 2. Bright Brass: BHMA 605.
 - 3. Satin Chromium Plated: BHMA 626 for brass or bronze base; BHMA 652 for steel base.
 - 4. Satin Stainless Steel, Stainless-Steel Base: BHMA 630.
- E. For concealed hardware provide manufacturer's standard finish that complies with product class requirements of BHMA A156.9.
- F. Clear Float Glass for Doors: ASTM C 1036, Type I, Class 1, Quality q3, 6 mm thick, unless otherwise indicated.
- G. Clear, Tempered Float Glass for Doors: ASTM C 1048, Kind FT, Condition A, Type I, Class 1, Quality q3; manufactured by horizontal (roller hearth) process, with exposed edges seamed before tempering, 6 mm thick, unless otherwise indicated.
- H. Mirror Glass for Doors: ASTM C 1036, Type I, Class 1, Quality q2; with second (back) surface coated with successive layers of chemically deposited silver, copper, and protective organic coating to produce coating system complying with performance requirements of FS DD-M-411.
 - 1. Glass Thickness: 3 mm, unless otherwise indicated.
 - 2. Glass Thickness: 5 mm, unless otherwise indicated.
- I. Clear, Tempered Float Glass for Shelves: ASTM C 1048, Kind FT, Condition A, Type I, Class 1, Quality q3; with exposed edges seamed before tempering, 6 mm thick, unless otherwise indicated.

2.5 INSTALLATION MATERIALS

- A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln dried to less than 15 percent moisture content.
- B. Furring, Blocking, Shims, and Hanging Strips: Fire-retardant-treated softwood lumber, kiln dried to less than 15 percent moisture content.
- C. Rough Carriages for Stairs: Comply with requirements of Division 6 Section "Rough Carpentry" for structural framing lumber. Kiln dry to less than 15 percent moisture content.

- D. Screws: Select material, type, size, and finish required for each use. Comply with ASME B18.6.1 for applicable requirements.
 - 1. For metal framing supports, provide screws as recommended by metal-framing manufacturer.
- E. Nails: Select material, type, size, and finish required for each use. Comply with FS FF-N-105 for applicable requirements.
- F. Anchors: Select material, type, size, and finish required for 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.

2.6 FABRICATION, GENERAL

- A. Interior Woodwork Grade: Provide interior woodwork complying with the referenced quality standard and of the following grade:
 - 1. Grade: Premium.
 - 2. Grade: Custom.
 - 3. Grade: Economy.
- B. Wood Moisture Content: Comply with requirements of referenced quality standard for wood moisture content in relation to relative humidity conditions existing during time of fabrication and in installation areas.
- D. 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 $\frac{3}{4}$ inch (19 mm) thick or less: 1/16 inch (1.5 mm).
 - 2. Edges of rails and similar members more than $\frac{3}{4}$ inch (19 mm) thick: 1/8 inch (3 mm).
 - 3. Corners of cabinets and edges of solid-wood (lumber) members and rails: 1/16 inch (1.5 mm).
- E. 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.
- F. Shop-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 with a water-resistant coating.
- G. Install glass to comply with applicable requirements of Division 8 Section "Glazing" and of FGMA "Glazing Manual." For glass in wood frames, secure glass with removable stops.

2.7 WOOD CABINETS (CASEWORK) FOR TRANSPARENT FINISH

- A. Quality Standard: Comply with AWI Section 400 requirements for wood cabinets.
- B. Quality Standard: Comply with WIC Section 14, "Wood Casework."
 - 1. Grade: Premium.
 - 2. Grade: Custom.
 - 3. Grade: Economy.
 - 4. WIC Grade: Laboratory.

- C. AWI Type of Cabinet Construction: Flush overlay.

2.10 WOOD CABINETS (CASEWORK) FOR OPAQUE FINISH

- A. Quality Standard: Comply with AWI Section 400 requirements for wood cabinets.
- B. Quality Standard: Comply with WIC Section 14, "Wood Casework."
 - 1. Grade: Premium.
 - 2. Grade: Custom.
 - 3. Grade: Economy.
 - 4. WIC Grade: Laboratory.
- C. AWI Type of Cabinet Construction: Flush overlay.

2.11 LAMINATE-CLAD CABINETS (PLASTIC-COVERED CASEWORK)

- A. Quality Standard: Comply with AWI Section 400 requirements for laminate-clad cabinets.
- B. Quality Standard: Comply with WIC Section 15, "Plastic-Covered Casework."
 - 1. Grade: Premium.
 - 2. Grade: Custom.
 - 3. Grade: Economy.
 - 4. WIC Grade: Laboratory.

2.12 COUNTERTOPS

- A. Quality Standard: Comply with AWI Section 400 requirements for countertops.
- B. Quality Standard: Comply with applicable WIC section indicated below:
 - 1. WIC Section 14, "Wood Casework."
 - 2. WIC Section 16, "Laminated Plastic Countertops, Splashes and Wall Paneling."
 - 3. Grade: Premium.
 - 4. Grade: Custom.
 - 5. Grade: Economy.
- C. Type of Top: Solid wood for transparent finish, edge-glued, with crown direction reversed in adjacent boards, to produce widths indicated. Select boards for similarity of color and grain and arrange boards for optimum match between adjacent boards. Species and cut as follows:
 - 1. Wood Species: Red oak, rift sawn.
 - 2. Wood Species: Hickory, plain sawn.
 - 3. Wood Species: African mahogany, quarter sawn.
 - 4. Wood Species: As indicated.
- D. Type of Top: Solid laminated for transparent finish. Narrow strips of lumber glued together with crown direction reversed in adjacent strips. Arrange strips for random mix of color and grain. Species and cut as follows:

2.13 SOLID SURFACING MATERIAL COUNTERTOPS

- A. Quality Standard: Comply with applicable WIC section indicated below:
 - 1. WIC Section 17D, "Decorative Synthetic Marble Countertops and Sinks."
 - 2. WIC Section 17E, "Decorative Synthetic Marble Countertops and Sinks."
 - 3. Grade: Premium.
 - 4. Grade: Custom.
 - 5. Grade: Economy.
- B. Fabrication: Fabricate tops in one piece with shop-applied backsplashes and edges, unless otherwise indicated. Comply with solid surfacing material manufacturer's recommendations for adhesives, sealers, fabrication, and finishing.
 - 1. Install integral sink bowls in countertops in the shop.
 - 2. Drill holes in countertops for plumbing fittings and soap dispensers in the shop.
- C. Solid Surfacing Material Thickness: ½ inch (13 mm).
- D. Solid Surfacing Material Thickness: ¾ inch (19 mm).
- E. Colors, Patterns, and Finishes: Provide materials and products that result in colors of solid surface material complying with the following requirements:
 - 1. Match Architect's sample.
 - 2. Match color, pattern, and finish indicated by reference to manufacturer's standard designations for these characteristics.
 - 3. Provide Architect's selections from manufacturer's full range of colors and finishes.

2.14 INTERIOR FRAMES AND JAMBS FOR TRANSPARENT FINISH

- A. Quality Standard: Comply with AWI Section 900.
- B. Quality Standard: Comply with WIC Section 12, "Interior Jambs."
 - 1. Grade: Premium.
 - 2. Grade: Custom.
 - 3. Grade: Economy.
- C. Wood Species: Red oak, rift sawn.
- D. Wood Species: Match species and cut indicated for other types of transparent-finished architectural woodwork located in same area of building unless otherwise indicated.
- E. Fire-Rated Interior Frames and Jambs: Products fabricated from fire-retardant particleboard or fire-retardant, medium-density fiberboard with veneered, exposed surfaces and identical in construction to units tested for use in fire door assemblies per ASTM E 152 by UL, Warnock Hersey, or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify fire-rated frames with appropriate label of applicable testing and inspecting agency.
 - 1. Fire Rating: 20 minutes.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Condition woodwork to average prevailing humidity conditions in installation areas before installing.
- B. 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 the same grade specified in Part 2 of this Section for type of woodwork involved.
- B. Quality Standard: Install woodwork to comply with WIC Section 26 for the same grade specified in Part 2 of this Section for type of woodwork involved.
- C. 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 96 inches (3 mm in 2400 mm)
- D. for plumb and level (including tops).
- E. Scribe and cut woodwork to fit adjoining work and refinish cut surfaces or repair damaged finish at cuts.
- F. Fire-Retardant-Treated Wood: Handle, store, and install fire-retardant-treated wood to comply with recommendations of chemical treatment manufacturer, including those for adhesives used to install woodwork.
- G. 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 complete installation. Use fine finishing nails for exposed nailing, countersunk and filled flush with woodwork and matching final finish where transparent finish is indicated.
- H. Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to the greatest extent possible. Do not use pieces less than 36 inches (900 mm) long, except where necessary. Stagger joints in adjacent and related members. Fill gaps, if any, between top of base and wall with plastic wood filler, sand smooth, and finish same as wood base, if finished.
 - 1. Install standing and running trim with no more than 1/8 inch in 96-inch (3 mm in 2400-mm) variation from a straight line.
- I. 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.
 - 1. Install cabinets with no more than 1/8 inch in 96-inch (3 mm in 2400-mm) sag, bow, or other variation from a straight line.
 - 2. Maintain veneer sequence matching of cabinets with transparent finish.
- J. Tops: Anchor securely to base units and other support systems as indicated. Calk space between backsplash and wall with specified sealant.
 - 1. Install countertops with no more than 1/8 inch in 96-inch (3 mm in 2400-mm) sag, bow, or other variation from a straight line.
 - 2. Secure backsplashes to tops with concealed metal brackets at 16 inches (400 mm) o.c.

- K. Paneling: Anchor paneling to supporting substrate with concealed panel-hanger clips and by blind nailing on backup strips, splined-connection strips, and similar associated trim and framing. Do not face nail unless otherwise indicated.
 - 1. Install flush paneling with no more than 1/16 inch in 96-inch (1.5 mm in 2400-mm) vertical cup or bow and 1/8 inch in 96-inch (3 mm in 2400-mm) horizontal variation from a true plane.
- L. Stairwork and Rails: Cut carriages to accurately fit treads and risers and securely anchor to supporting substrates. Glue treads to risers, and glue and nail treads and risers to carriages. Glue and wedge treads and risers to housed stringers. Glue and dowel or pin balusters to treads and railings, and railings to newel posts. Support wall railings on indicated metal brackets securely fastened to wall framing.
 - 1. Install stairwork with treads and risers no more than 1/8 inch (3 mm) from indicated position, and no more than 1/16 inch (1.5 mm) out of position with respect to the adjacent treads and risers. Install rails with no more than 1/8 inch in 96-inch (3 mm in 2400-mm) variation from a straight line.
- M. Complete the finishing work specified in this Section to the extent not completed at shop or before installation of woodwork. Fill nail holes with matching filler where exposed. Apply specified finish coats, including stains and paste fillers if any, to exposed surfaces where only sealer/prime coats were applied in the shop.
- N. Refer to Division 9 Sections for final finishing of installed architectural woodwork.

3.3 ADJUSTING AND CLEANING

- A. Repair damaged and defective woodwork where possible to eliminate functional and visual defects; 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 shop-applied finishes to restore damaged or soiled areas.

3.4 PROTECTION

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

END OF SECTION 06402