

SECTION 06 40 23  
INTERIOR ARCHITECTURAL WOODWORK

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Laminate clad cabinets and custom components.
- B. Laminate clad countertops.
- C. Cabinet hardware including countertop support brackets.
- D. Interior standing and running trim.
- E. Wood veneer flat panel surfaces.
- F. Solid surface materials and fabrication.
- G. Shelving not integral with cabinets.
- H. Shop finish of interior woodwork.

1.02 RELATED SECTIONS

- A. Division 6: Miscellaneous Rough Carpentry for wood furring, blocking, shims, hanging strips, and other details required for installing woodwork.
- B. Division 8: Glass for use in millwork where indicated.
- C. Division 22: Sections to provide sinks, faucets, traps, strainers and tailpieces required in casework, including templates for countertop sink cutouts.

1.03 DEFINITIONS

- A. Exposed Portions of Cabinets: Surfaces visible when doors and drawers are closed, including bottoms of cabinets more than 48 inches above floor, and surfaces visible in open cabinets.
- B. Semi-exposed Portions of Cabinets: Surfaces behind opaque doors, such as interiors of cabinets, shelves, dividers, interiors and sides of drawers, and interior faces of doors. Tops of cabinets 72 inches or more above the floor are defined as semi-exposed.
- C. Concealed Portions of Cabinets: Surfaces usually visible after installation, including sleepers, web frames, dust panels, and ends and backs that are placed directly against walls or other cabinets.

1.04 SUBMITTALS

- A. Shop drawings
  - 1. Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
  - 2. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement.
  - 3. Show locations and sizes of cutouts and holes for plumbing fixtures and other items installed in architectural woodwork.
  - 4. Provide one set of shop drawings which includes all products within this section, engineered and built by a single source manufacturer, with seamless coordination amongst all products
- B. Samples for Selection
  - 1. Samples with applied transparent finishes to be provided upon request.
  - 2. High pressure decorative laminate sample chains to be provided upon request.
  - 3. PVC edgebanding color charts to be provided upon request.
  - 4. Solid surface color samples to be provided upon request.
- C. Samples for Final Verification
  - 1. Lumber with / for transparent finish, not less than 15 square inches, for each species and cut, finished on one side.
  - 3. Veneer faced panel products with / for transparent finish, not less than 15 square inches, for each species and cut. Include at least one face-veneer seam and finish as specified.
  - 4. Laminated sample blocks: 4 inch x 4 inch, applied to substrate, with PVC edgebanding on two edges. Provide one sample block for each color/pattern selection upon request.
  - 5. Solid surface sample blocks: 2 inch x 2 inch. Provide one sample block for each color/pattern selection upon request.
- D. Mockups: Build mockups to verify selections made, to demonstrate aesthetic effects, and set quality standards for materials and execution.
  - 1. Approved mockups may become part of the completed work if undisturbed at time of substantial completion.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Shop must employ skilled woodworkers who custom fabricate products similar to those required for this project and whose products have a record of successful performance.
- B. Single Source Manufacturer: Casework, countertops and architectural millwork products must all be engineered and built by a single source manufacturer in order to ensure consistency and quality for these related products. Splitting casework, countertops and/or architectural millwork between multiple manufacturers will not be permitted.
- C. AWI Quality Standard: Manufacturer must be AWI QCP Certified to manufacture products meeting the grades specified below.
  - 1. Comply with AWI Quality Standards Illustrated for grades of interior architectural woodwork indicated for construction, finishes, installation, and other requirements.
  - 2. Manufacturer to provide AWI Quality Certification Program CERTIFICATE indicating that the woodwork complies with the requirements of the grade specified.

#### 1.06 DELIVERY, STORAGE AND HANDLING

- A. Do not deliver or install woodwork until building is enclosed, painting and other wet work is completed, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels, between 25 percent and 55 percent, during the remainder of the construction period.
- B. If woodwork must be stored in areas other than final installation location, store only in areas where environmental conditions comply with these requirements.

#### 1.07 PROJECT CONDITIONS

- A. Field Measurements: Where woodwork is indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying work.
  - 1. Locate concealed framing, blocking and reinforcements that support woodwork by field measurements before being enclosed.
  - 2. Where field dimensions cannot be made without delaying the work, project general contractor will guarantee dimensions in order to proceed with manufacturing of woodwork.

#### 1.08 WARRANTY

- A. All materials and workmanship covered by this section will carry a one (1) year warranty from date of acceptance.

### PART 2 – PRODUCTS

#### 2.01 MATERIALS

- A. Provide materials that comply with requirements of AWS Sections 5, 6, 10, and 11 (2009 AWI, AWMAC, WI – Architectural Woodwork Standards – 1<sup>st</sup> Edition) and the referenced product standards indicated:
  - 1. Laminate: NEMA Test LD-3, 2005.
    - a. If colors are not indicated in Room Finish Schedule, selection will be from standard Wilsonart® and Formica® color offerings.
  - 2. Thermally fused melamine: NEMA Test LD-3, 2005
    - a. TFM allowed on casework interiors only, as specified below. Utilization of TFM on any exterior casework surfaces, including door and drawer faces and finished ends, will not be permitted.
    - b. If colors are not indicated in Room Finish Schedule, selection will be from standard white, gray, or beige color offerings.
  - 2. Hardboard: ANSI / AHA A135.4
  - 3. Particleboard: ANSI A208.1-2009, M-2 requirements, Industrial grade.
  - 4. Veneer Faced Panels (MDF or particleboard core): HPVA HP-1

#### **SELECT OPTION:**

- a. Species and Cut: Plain-sawn, clear, kiln dried red oak selected for compatible grain and color.
- a. Species and Cut: Plain-sawn, clear, kiln dried maple selected for compatible grain and color.
- a. Species and Cut: Plain-sawn, clear, kiln dried cherry selected for compatible grain and color.
- 5. Solid Surface: Meeting ANSI Z124.3 or ANSI Z124.6 standards.

- a. Cast, non-porous, filled polymer, not coated, laminated or of composite construction, with through body colors.
  - b. 1/2 inch thick sheet stock.
  - c. If colors are not indicated in Room Finish Schedule, selection will be from Corian® Color Group A or B offering.
6. Interior Wood Trim: Provide finished wood lumber and moldings complying with the following requirements.

**SELECT OPTION:**

- a. Species and Cut: Plain-sawn, clear, kiln dried red oak selected for compatible grain and color.
  - a. Species and Cut: Plain-sawn, clear, kiln dried maple selected for compatible grain and color.
  - a. Species and Cut: Plain-sawn, clear, kiln dried cherry selected for compatible grain and color.
  - b. Texture: Surfaced (smooth).
  - c. Lumber for Transparent Finish (Stained or Clear): Solid lumber stock.
7. Wood Molding Patterns: Provide stock moldings indicated, made to patterns included in WMMPA WM 7 and graded under WMMPA WM4.
- a. Moldings for Transparent Finish: N-Grade.

2.02 FABRICATION GENERAL

- A. Complete fabrication, including assembly, finishing, and hardware application, before shipment to project site to maximum extent possible.
  - 1. Trial fit assemblies at fabrication shop that cannot be shipped completely assembled.
  - 2. Insert dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting.
  - 3. Verify that various parts fit as intended and check measurements of assemblies against field measurements indicated on shop drawings before disassembling for shipment.
- B. Factory cut openings, to maximum extent possible, to receive hardware, appliances, plumbing fixtures, electrical work, and similar items.

2.03 LAMINATE CLAD CABINETS

- A. Quality Standard: Comply with AWS Section 10 – Casework (2009 AWI, AWMAC, WI – Architectural Woodwork Standards – 1<sup>st</sup> Edition).
- B. Grade: Custom
- C. Face Construction: Reveal Overlay design.
- D. Core: Industrial grade particleboard.
- E. Laminate Cladding on Surfaces
  - 1. Exposed surfaces: High pressure decorative laminate VGS (0.028 thickness) balanced with high pressure cabinet liner CLS (0.020 thickness). Use of TFM on exposed exterior surfaces will not be permitted.
  - 2. Semi-Exposed surfaces: Thermally fused melamine laminate.
  - 3. Unfinished core surfaces, even on concealed surfaces (excluding edges), will not be permitted.
- F. PVC Edgebanding
  - 1. Cabinet body edges and shelf edge: 1mm PVC banding, machine applied and trimmed.
  - 2. Cabinet door and drawer edges: 3mm PVC banding, machine applied and machine profiled to 1/8 inch radius.
- G. Drawer Box Construction
  - 1. Minimum 1/2 inch thick particleboard sides, back, sub-front, and bottom, with bottom screwed directly to the assembled drawer box.
  - 2. All drawer box surfaces (excluding edges) to be finished with thermally fused melamine laminate.
  - 3. Top edge of drawer box finished with 1mm PVC machine applied and trimmed.

2.04 CABINET HARDWARE

- A. Comply with ANSI/BHMA A156.9, Grade 1 units.
- B. Door and drawer front pulls:
  - 1. Select from the TMI Vendor Stock Pull Program or other manufacturer's pre-approved equivalent program.
  - 2. Pull program offering must include minimum of 20 metal pull design and finish option combinations including:

- a. Bar Pull (Finish options: Satin Bronzed Copper, Chrome Polished, Chrome Matte, and Brushed Nickel)
  - b. Bow Pull (Finish options: Black Matte, Oil Rubbed Bronze, Satin Bronzed Copper, Chrome Polished, Chrome Matte, and Nickel Matte)
  - c. Contemporary Pull (Finish option: Brushed Nickel)
  - d. Heavy Bow Pull (Finish option: Brushed Nickel)
  - e. Petite Bow Pull (Finish option: Brushed Nickel)
  - f. Metal Wire Pull (Finish options: Epoxy Powder Coated Gray, Beige, White, Black, Slate, Chrome, and Satin Chrome US26D)
3. All pulls with 96mm spacing on screws. Pull designs shall comply with the Americans with Disability Act (ADA).

**SELECT OPTION:**

- C. Hinges: Five knuckle, epoxy powder coated, institutional grade, 2-3/4 inch, overlay design, with hospital safety tip, made with 0.095 inch thick metal.
- C. Hinges: Concealed 120-degree swing, self-closing, clip-on style.
  - 1. Doors up to 34 inches in height have 2 hinges per door.
  - 2. Doors 35 inches to 62 inches in height have 3 hinges per door.
  - 3. Doors 63 inches to 80 inches in height have 4 hinges per door.
  - 4. All doors have rubber bumpers.
- D. Drawer Slides: Epoxy powder coated steel, bottom corner mounted, with smooth and quiet nylon rollers, and positive stop in both directions. Regular drawers to receive 100-pound load rated, standard extension slides. File drawers to receive 150-pound load rated full-extension slides.
- E. Shelf Supports: Injection molded, clear polycarbonate, adjustable on 32mm holes, with two integral support pins, and automatic lock down tabs for 3/4 inch and 1 inch thick shelves to prevent accidental tipping of shelf. Each shelf assembly to support a minimum of 1,200 pounds, evenly distributed, without failure.
- F. Locks (Where indicated on drawings.): Removable core, disc tumbler, cam-style lock with strike.
- G. Magnetic Catch: BHMA A156.9, B03141, Grade 1.
- H. Counter Support Bracket: Epoxy powder coated, 11 gauge steel with integral cleat mount opening and wire management opening. Provide where indicated on drawings.

2.05 LAMINATE CLAD COUNTERTOPS

- A. Quality Standard: Comply with AWS Section 11 – Countertops (2009 AWI, AWMAC, WI – Architectural Woodwork Standards – 1<sup>st</sup> Edition).
- B. Grade: Custom
- C. Style: High pressure decorative laminate with top mounted backsplash.
- D. Core: Industrial grade particleboard.
- E. Laminate Cladding on Surfaces
  - 1. Horizontal surfaces: High pressure decorative laminate HGS (0.048 thickness).

**SELECT OPTION:**

- 2. Exposed edges: 3mm PVC banding, machine applied and machine profiled to 1/8 inch radius.
- 2. Exposed edges: High-pressure decorative HGS/HGP laminate self edge.
- 3. Backsplash laminate: High pressure decorative laminate HGS (0.048 thickness).
- 4. All laminated countertop surfaces must be properly balanced with high pressure backer BKH. Unfinished core surfaces, even on concealed surfaces (excluding edges), will not be permitted.
- F. Provide tops in as long as practical continuous lengths. Provide field glued splines at joints, with not joints closer than 24 inches on either side of sink cutouts.
- G. Scribe backsplash to wall for tight fit.

2.06 STANDING AND RUNNING TRIM AND RAILS WITH TRANSPARENT FINISH

- A. Quality Standard: Comply with AWS Section 6 – Interior & Exterior Millwork (2009 AWI, AWMAC, WI – Architectural Woodwork Standards – 1<sup>st</sup> Edition).
- B. Grade: Custom

**SELECT OPTION:**

- C. Lumber Species: Plain-sawn, clear, kiln dried red oak selected for compatible grain and color.
  - C. Lumber Species: Plain-sawn, clear, kiln dried maple selected for compatible grain and color.
  - C. Lumber Species: Plain-sawn, clear, kiln dried cherry selected for compatible grain and color.
  - D. Profile: As indicated on drawings.
    1. For trim items wider than available lumber, use veneered construction. Do not glue for width.
    2. For rails wider or thicker than available lumber, use veneered construction. Do not glue for width.
    3. Backout or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with exposed ends in finished work.
    4. Provide moldings and casings in running lengths, field cut and fit for installation.
- 2.07 STANDING AND RUNNING TRIM AND RAILS WITH OPAQUE FINISH
- A. Quality Standard: Comply with AWS Section 6 – Interior & Exterior Millwork (2009 AWI, AWMAC, WI – Architectural Woodwork Standards – 1<sup>st</sup> Edition).
  - B. Grade: Custom
  - C. Lumber Species: Plain-sawn poplar.
  - D. Profile: As indicated on drawings.
    1. Backout or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with exposed ends in finished work.
  - E. Provide sanded and ready for field finishing.
- 2.08 SOLID SURFACE COUNTERTOPS AND SILLS
- A. Fabrication: Fabricate tops in largest pieces possible with shop applied backsplash and edges unless otherwise indicated on drawings. Form field joints using manufacturer’s recommended adhesive, with joints inconspicuous in finished work. Comply with solid surface material manufacturer’s recommendations for adhesives, sealers, fabrication and finishing.
  - B. Thickness: As indicated on drawings.
  - C. Substrate: 3/4 inch thick medium density fiberboard.
  - D. Joint Adhesive: Manufacturer’s standard one or two-part adhesive kit to create inconspicuous, non-porous joints.
    1. Reinforce joints with strip of polymer material, 2” wide.
- 2.09 MISCELLANEOUS SHELVING NOT INTEGRAL WITH CASEWORK
- A. Shelf Material: 3/4 inch thick particleboard core.
  - B. Laminate: High pressure decorative laminate VGS (0.028 thickness) on both faces.
  - C. Edgebanding: 3mm PVC banding, machine applied and machine profiled to 1/8 inch radius.
  - D. Shelf Standards and Brackets: KV #87 standards and #187 brackets, or equal.
- 2.10 SHOP FINISHING
- A. Preparation for finishing: Comply with AWS Section 5 – Finishing (2009 AWI, AWMAC, WI – Architectural Woodwork Standards – 1<sup>st</sup> Edition) for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing architectural woodwork as applicable to each unit of work.
    1. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of woodwork. Apply one coat to back of paneling.
  - B. Transparent Finish
    1. Grade: Custom
    2. AWI Finish System: Conversion varnish.
    3. Staining: Match approved samples for color.
    4. Sheen: Satin, 31-45 gloss units measured on 60-degree gloss meter per ASTM-D523.
- 2.11 ADHESIVES
- A. For bonding laminate to core: PVA adhesive for cold press applications, machine applied as a consistent, rigid glue line.
  - B. For bonding PVC edgebanding to core: Hot melt adhesive, machine applied.
  - C. For installation: Adhesives that comply with VOC content limits according to EPA Method 24, 40-CFR-59, Subpart D. Wood glues VOC content less than 30 g/L. Contact adhesive VOC content less than 250 g/L.

## PART 3 – EXECUTION

### 3.01 PREPARATION AND INSTALLATION

- A. Interior architectural woodwork includes wood furring, blocking, shims, and hanging strips for installation of woodwork items unless concealed within other construction before woodwork installation.
  - B. Condition woodwork to humidity conditions as specified in Project Conditions.
  - C. Quality Standard: Install woodwork to Comply with AWS Sections 5, 6, 10, and 11 (2009 AWI, AWMAC, WI – Architectural Woodwork Standards – 1<sup>st</sup> Edition).
  - D. 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 for plumb and level, with no variations in flushness of adjoining surfaces.
  - E. Scribe and cut woodwork to fit adjoining work, and refinish cut surfaces or repair damaged finish at cuts.
  - F. Anchor woodwork to anchors or blocking built into substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing as required.
    - 1. Drill pilot holes in hardwood before fastening to prevent splitting. Fasten to prevent movement or warping.
    - 2. Except where prefinished matching fastener heads are required, use fine finishing nails for exposed nailing.
  - G. Install cabinets 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 easy operation.
  - H. Anchor countertops securely to base units and other support systems as indicated.
  - J. Install standing and running trim, and rails with minimum number of joints possible, using full-length pieces from maximum length lumber available. Stagger joints in adjacent and related members. Cope returns and miter corners.
    - 1. Fill gaps between top of base and wall with plastic wood filler, sand smooth, and finish same as wood base.
  - K. Install miscellaneous accessories per manufacturer's instructions using fasteners appropriate to substrate and recommended by manufacturer. Install units plumb and level, firmly anchored, in locations indicated on drawings.
  - L. Touch up finishing work specified in this section after installation of woodwork. Fill nail holes with matching filler where exposed.
- 3.02 ADJUSTMENT AND CLEANING
- A. Repair damaged case goods and woodwork where possible to eliminate defects. If repair is not sufficient woodwork must be replaced. Adjust joints for uniform appearance.
  - B. Clean, lubricate and adjust hardware.
  - C. Clean case goods and woodwork on exposed and semi-exposed surfaces. Touch-up factory applied finishes to restore damaged or soiled areas.
- 3.03 PROTECTION
- A. Provide final protection and maintain environmental conditions in a manner acceptable to manufacturer and installer which insures that without damage or deterioration at the time of substantial completion.

END OF SECTION

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