

**SECTION 06 40 00**  
**ARCHITECTURAL WOODWORK**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Cabinets and countertops.
  - 2. Plastic laminates.
  - 3. Miscellaneous millwork as indicated on as indicated on Drawings.

**1.2 SUBMITTALS**

- A. Product Data: Submit manufacturer's literature for each type of product indicated, including cabinet hardware and accessories, and finishing materials and processes.
- B. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
  - 1. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other sections.
  - 2. Show locations and sizes of cutouts and holes penetrations through installed architectural woodwork.
- C. Samples:
  - 1. Plastic laminates: Submit samples, manufacturer's standard size, for each type, color, pattern, and surface finish.
  - 2. Hardware: Submit samples of each type of hardware.
- D. Product Certificates: Signed by manufacturers of woodwork certifying that products furnished comply with requirements.
- E. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

**1.3 QUALITY ASSURANCE**

- A. Installer Qualifications: An experienced installer who has completed architectural woodwork similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Fabricator Qualifications: A firm experienced in producing architectural woodwork similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

- C. Quality Standard:
  - 1. Unless otherwise indicated, comply with the following AWI's "Architectural Woodwork Quality Standards" for grades of interior architectural woodwork, construction, finishes, and other requirements.
    - a. Custom Grade.
  - 2. Provide AWI Quality Certification Program labels indicating that woodwork complies with requirements of grades specified.
  - 3. Affix Quality Grade Stamp to each unit of product (e.g. each case; each panel; each bundle of trim, etc.).
- D. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum of 10 year documented experience fabricating items similar in size and scope to products on this project.
- E. Regulatory Requirements: Flame spread and smoke developed shall conform to applicable code requirements for laminates and fire retardant treated wood in accordance with ASTM E84, unless otherwise indicated on the Drawings.

#### **1.4 DELIVERY, STORAGE, AND HANDLING**

- A. Do not deliver woodwork until painting and similar operations that could damage woodwork have been completed in installation areas. If woodwork must be stored in other than installation areas, store only in areas where environmental conditions comply with requirements specified in "Project Conditions" Article.

#### **1.5 PROJECT CONDITIONS**

- A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.
- B. 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 the Work.
  - 1. Locate concealed metal framing, blocking, and reinforcements that support woodwork by field measurements before being enclosed and indicate measurements on Shop Drawings.
  - 2. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish 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 established dimensions.

## 1.6 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 MATERIALS

- A. General: Provide materials that comply with requirements of the AWI quality standard for each type of woodwork and quality grade specified, unless otherwise indicated.
- B. Do not use products that contain urea formaldehyde.
- C. Wood Sheet Products:
  - 1. Medium-Density Fiberboard: ANSI A208.2, Grade MD, made with binder containing no urea formaldehyde. Provide Grade MD-Exterior Glue at locations subject to moisture or exterior conditions.
  - 2. Particleboard: 45 lb industrial grade particle board minimum, ANSI A208.1, Grade MD. Provide Grade MD-Exterior Glue at locations subject to moisture or exterior conditions. Provide sanded faces for drawer and shelving construction.
  - 3. Softwood Plywood: DOC PS 1, Douglas Fir face species, rotary cut, exterior glue, sanded finish. Provide marine grade at locations subject to moisture.
- D. Thermoset Decorative Overlay (melamine): Particleboard complying with ANSI A208.1, Grade M-2, or medium-density fiberboard complying with ANSI A208.2, Grade MD, with surface of thermally fused, melamine-impregnated decorative paper complying with LMA SAT-1.

### 2.2 LAMINATE MATERIALS

- A. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated, or if not indicated, as required by woodwork quality standard.
  - 1. High-Pressure Decorative Laminate Grade:
    - a. Flat: HGS.
    - b. Postformed: HGP
  - 2. Horizontal Surfaces: HGS (0.048 inch thick).
  - 3. Vertical Surfaces: VGS (0.028 inch thick).
  - 4. Edges: PVC edge banding, 3mm thick, matching laminate in color, pattern, and finish.
  - 5. Colors, Patterns and Finishes: As indicated on Drawings.

6. Manufacturers: Subject to compliance with requirements, provide high-pressure decorative laminates by one of the following:
  - a. Formica Corporation.
  - b. Laminart.
  - c. Nevamar
  - d. Pionite.
  - e. Wilsonart International; Div. of Premark International, Inc.

### **2.3 CABINET HARDWARE AND ACCESSORIES**

- A. Hardware Standard: Comply with BHMA A156.9 for items indicated by referencing BHMA numbers or items referenced to this standard.
- B. Frameless Concealed Hinges (European Type): BHMA A156.9, B01602, 135 degrees of opening self-closing.
- C. Pulls: Back mounted, 4 inches long, 5/16 inches in diameter.
- D. Catches: Magnetic catches, BHMA A156.9, B03141 .
- E. Adjustable Shelf Standards and Supports: BHMA A156.9, B04071; with shelf rests, B04081.
- F. Shelf Rests: BHMA A156.9, B04013.
- G. Drawer Slides: Side-mounted, full-extension, zinc-plated steel drawer slides with steel ball bearings, BHMA A156.9, B05091, and rated for the following loads:
  1. Box Drawer Slides: 100 lbf.
  2. File Drawer Slides: 200 lbf.
  3. Pencil Drawer Slides: 45 lbf.
  4. Keyboard Slide: 75 lbf.
- H. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.
  1. Finish: As selected by Architect.
- I. For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in BHMA A156.9.

### **2.4 ACCESSORIES**

- A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, fire-retardant-treated as required, kiln-dried to less than 15 percent moisture content.

- B. 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 sleeves for drilled-in-place anchors.
- C. Adhesives:
  - 1. General: Do not use adhesives that contain urea formaldehyde.
  - 2. VOC Limits for Installation Adhesives and Glues: Use installation adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
    - a. Wood Glues: 30 g/L.
    - b. Contact Adhesive: 250 g/L.
- D. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application. Threaded steel for concealed joints.

## 2.5 FABRICATION - GENERAL

- A. Interior Woodwork Grade: Fabricate architectural woodwork and cabinets in conformance with the following:
  - 1. Custom grade standards.
- B. General:
  - 1. Exposed fasteners are not allowed in the finish Work on exposed and semi-exposed surfaces.
  - 2. Wood Moisture Content: Comply with requirements of AWI for wood moisture content in relation to ambient relative humidity during fabrication and in installation areas.
  - 3. Sand fire-retardant-treated wood lightly to remove raised grain on exposed surfaces before fabrication.
- C. 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 3/4 Inch Thick or Less: 1/16 inch.
  - 2. Edges of Rails and Similar Members More Than 3/4 Inch Thick: 1/8 inch.
  - 3. Corners of Cabinets and Edges of Solid-Wood (Lumber) Members and Rails: 1/16 inch.
- D. Complete fabrication, including assembly, finishing, and hardware application, to maximum extent possible, before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

1. Trial fit assemblies at fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements indicated on Shop Drawings before disassembling for shipment.
- E. 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. Sand edges of cutouts to remove splinters and burrs.
  1. Seal edges of openings in countertops with a coat of varnish.

## **2.6 FABRICATION - CABINETS AND COUNTERTOPS**

- A. Quality Standard: Comply with AWI Section 400 requirements for wood cabinets.
- B. Base Construction:
  1. Materials: Melamine thermally fused to 3/4 inch, 45 lb industrial grade particle board minimum, unless otherwise indicated on Drawings.
  2. Fabrication: Dowel and glue in case clamp. Staples and screws are not permitted.
- C. AWI Style of Cabinet Construction: As selected by Architect.
- D. Doors:
  1. Core: 3/4 inch, 45 lb industrial grade particle board minimum.
  2. Laminated with the same material on both sides.
  3. All edges to receive edge banding.
- E. Edge Treatment:
  1. Laminate: Same as laminate cladding on horizontal surfaces, unless otherwise indicated on Drawings. Use one piece for full length only.
- F. Shelves: Fabricate shelves with 3/4 inch thick wood particleboard cores unless otherwise indicated.
  1. Laminate, Shelves within Casework: Melamine thermally fused with 3mm PVC edge banding at all adjustable shelf edges, unless otherwise indicated. Apply edge banding with PUR resin.
- G. Plastic Laminate Countertops:
  1. Comply with AWI Section 400 requirements for high-pressure decorative laminate countertops.
  2. Core Material: Particleboard made with exterior glue or Medium-density fiberboard made with exterior glue. Provide marine grade plywood at locations subject to moisture.
  3. Back splashes: Integrally formed, postformed, and separate side splashes with integral scribe for fitting to wall and back splash.

4. Edge Treatment: PVC edge banding, unless otherwise indicated on Drawings. Use one piece for full length only.

### **PART 3 - EXECUTION**

#### **3.1 PREPARATION**

- A. Condition woodwork to average prevailing humidity conditions in installation areas before installation.
- B. Before installing architectural woodwork, examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming.

#### **3.2 INSTALLATION**

- A. Install woodwork level, plumb, true, and straight. Use leveling devices at base cabinets. Shim as required with concealed, non-combustible shims. Install level and plumb (including tops) to a tolerance of 1/8 inch in 96 inches.
- B. Scribe and cut casework to fit adjoining work. Trim strips or molding are unacceptable.
- C. Take care not to damage finish. If minor damage occurs, repair with compatible materials so that repaired surface is not visually evident. Replace casework where damage penetrates through wood surfaces. Small defects in laminate surfaces, 1/16 inch diameter or less, may be repaired with seem fill or other suitable material.
- D. Cabinets: Install without distortion so 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 installation of hardware and accessory items as indicated.
  1. Install cabinets with no more than 1/8 inch in 96-inch sag, bow, or other variation from a straight line.
  2. Fasten wall cabinets through back, near top and bottom, at ends and not more than 16 inches o.c. with appropriate fasteners.
- E. Countertops: Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop.
  1. Install countertops with no more than 1/8 inch in 96-inch sag, bow, or other variation from a straight line.
  2. Calk space between backsplash and wall with sealant specified in Section 07 92 00 - Joint Sealants.

#### **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.

END OF SECTION