

**SECTION 06400  
ARCHITECTURAL  
WOODWORK**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A. Section includes special fabricated cabinet units, countertops, cabinet hardware, prefinished surfaces, and preparation for installing utilities.
- B. Related Sections:
  - 1. Section 06100 – Rough Carpentry.
  - 2. Section 06200 – Finish Carpentry.
  - 3. Divisions 15 and 16 – Mechanical and Electrical: Rough-in and connection.

**1.2 REFERENCES**

- A. ANSI A135.4 – Basic Hardboard.
- B. ANSI A208.1 – Mat Formed Wood Particleboard.
- C. AWI (Architectural Woodwork Institute) – Quality Standards.
- D. BHMA A156.9 – Cabinet Hardware.
- E. FS MMM-A-130 – Adhesive, Contact.
- F. NEMA (National Electric Manufacturers Association) LD3 – High Pressure Decorative Laminates.
- G. PS 1 – Construction and Industrial Plywood.
- H. PS 20 – American Softwood Lumber Standard.
- I. WIC (Woodwork Institute of California) – Manual of Millwork.
- J. APA (American Plywood Association).

**1.3 SUBMITTALS FOR REVIEW**

- A. Section 01300 – Administrative Requirements: Procedures for submittals.
- B. Shop Drawings: Indicate materials, component profiles and elevations, assembly methods, joint details, fastening methods, accessory listings, hardware location and schedule of finishes.
- C. Product Data: Provide data for hardware accessories and edging.
- D. Samples: Submit two: 1 1/2 x 2 1/2 inch size samples, illustrating each cabinet finish; 2 inch long size samples, illustrating each edging strip.
- E. Samples: Submit two samples of drawer pulls, hinges and closures, illustrating hardware finish.

**1.4 QUALITY ASSURANCE**

- A. Perform work in accordance with AWI Premium Quality.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with a minimum three (3) years of experience.

**1.5 MOCKUP**

- A. Arrange a meeting with Owner where units will be examined to ascertain quality and conformity to AWI standards. These units shall establish a minimum standard of quality for this work.
- B. Mockup may be used as part of the Work.

## 1.6 DELIVERY, STORAGE AND PROTECTION

- A. Delivery: Materials shall be delivered to the site by the casework fabricator in undamaged dry condition.
- B. Protection: Protect units by covering completed work with 4-mil polyethylene film protective enclosure, applied in a manner which will allow easy removal and without damage to woodwork or adjoining work. Architectural woodwork contractor shall remove cover immediately before date of substantial completion.

## PART 2 PRODUCTS

### 2.1 MATERIALS

- A. **Laminate Materials:**
  - 1. High Pressure Laminate (HPL): AWI 0.045 inch (1.1 mm) General Purpose quality; color, pattern and surface texture as scheduled.
  - 2. Melamine: General Purpose quality; color, pattern and surface texture as scheduled.
  - 3. Manufacturers:
    - a. Formica.
    - b. Wilsonart.
  - 4. **Premium laminate for reception desks. Standard laminate at all other millwork.**
- B. **Epoxy Resin:** Chemical and abrasion resistant, durable top of 1 inch thick cast material of epoxy resins and inert products.
- C. **Wood MDF board:** PS 1; AWI standard, of grade to suit application; thickness as noted below by application.
- D. **Hardboard:** Pressed wood fiber with resin binder, standard grade, 1/4 inch (6 mm) thick, smooth on one side, located as noted below by application.
- E. **Hardwood Plywood:** PS 51; graded in accordance with AWI core materials of lumber, type of glue recommended for application; face veneer and cuts as noted below by application.
- F. **Backs:**
  - 1. Exposed finished backs shall be 3/4 inch thick with HPL on inside surface.
  - 2. Unexposed backs shall be **1/2 inch** thick MDF board core with melamine laminate on inside surface for upper and lower cabinets. Use 3/4 inch thick on full height cabinets.
- G. **Ends:** Finished ends shall be 3/4 inch thick with melamine laminate on inside surface. Exposed edges to be banded with PVC.
- H. **Partitions:** Partitions shall be 3/4 inch thick with melamine laminate on inside surface.
- I. **Bottoms and Bases:**
  - 1. Bottoms shall be 3/4 inch thick MDF board core. Interior surfaced with melamine laminate and exposed surfaced with HPL on the top side.
  - 2. Base, storage and shelving units shall have a separate framed and reinforced base attached to the bottom of the cabinets forming a 4 inch high base that shall be recessed 2 inches in the front (unless noted otherwise on the drawings).

J. **Shelves:**

1. All shelves shall be **1 inch thick** MDF board core.
2. Interior shelves shall be surfaced with white melamine laminate surface on two sides. All sides to be banded with white melamine laminate.
3. Exposed shelves shall be surfaced with HPL on two sides with PVC edge banding.
4. **Adjustable shelf edges shall be banded with 3mm PVC on front and back edges and with white melamine on both side edges.**
5. All adjustable shelves to be on metal shelf pegs inserted into shop drilled holes at 2 inches on center vertically.

K. **Countertops:**

1. HPL covered countertops shall be **2 layers of 5/8" MDF** with plastic laminate surface on one side. Backsplashes as indicated on drawings, laminate to match countertop w/ 3mm PVC banding on tops and ends to match plastic laminate. Include end curb where top abuts end wall. **Countertops at wet areas are to use moisture resistant MDF.**
2. Face edge of countertops shall be banded with 3mm PVC (hot mill glued) to match plastic laminate tops. Colors to match plastic laminate color shall be selected by TPS.

L. **Drawers:**

1. Drawer fronts shall be 3/4 inch thick with HPL exterior surface and white melamine interior surface.
2. Exposed edges to be banded with 3mm PVC (hot mill glued), color to match plastic laminate.
3. **Drawer boxes shall be 5/8" MDF board core surfaced with white melamine laminate.**

M. **Doors:**

1. Doors shall be 3/4 inch thick with HPL exterior surface and white melamine interior surface.
2. Exposed edges shall be banded with 3mm PVC (hot mill glued).

N. **Hardware:**

1. Adjustable shelf hardware shall be as specified above.
2. Pulls: Drawer and Door pulls shall be 4 inch "U" shaped, wire loop type pull with brushed nickel satin finish.
3. Hinges: Hinges shall be Blum concealed type, 125 degree opening. Provide four (4) hinges on full-height doors.
4. Drawer slides: Drawer slides shall be side-mount Repon type, full extension, metal ball bearing, 100 lb.
5. Locks: Disc tumbler cam locks. **All locks in individual rooms to be keyed alike.** Provide 6 keys per classroom.

O. **Accessories:**

1. Adhesive: Type recommended by laminate manufacturer to suit application.
2. Counter tops, Ends, and Partition Edging: Semi-rigid PVC Vinyl Edge Trim; 3mm thickness; extruded convex shaped; smooth finish; of width to match component thickness/height; color to match adjacent surface.
3. Door and Drawer Edging: PVC Vinyl Edge; 3mm inch thick; smooth finish; of width to match component thickness; color to match adjacent surface.
4. Fasteners: Size and type to suit application.
5. Wire ways: Provide 3 inch diameter plastic wire ways at 48" o.c. at work surfaces; color shall be black.

P. **Finish Wood:** Shall be as identified on drawings.

- Q. **Epoxy Resin Sinks:**
1. All sinks indicated in epoxy resin countertops shall be constructed of similar epoxy resin material and shall be "lipped" in design.
  2. All sinks in Handicap Sink Units and Prep Rooms shall be ADA compliant with minimum inside dimensions of 25" (side-to-side) x 15" (front-to-back) x 5" (deep).
  3. All sinks in Pods and Teacher Stations shall have a minimum inside dimension of 8" (side-to-side) x 12" (front-to-back) x 6" (deep).
- R. **Epoxy Resin Countertops:**
1. Epoxy resin countertops to be 1 inch thick, cast flat, with a uniform non-glare black matte finish. Backsplashes of heights as indicated on drawings, butt- jointed and cemented to top. Include end curb where tops abut end walls.
- S. **Solid Surface Countertops:**
1. Solid surface countertops to be 1/2 inch nominal thickness. Backsplashes of heights as indicated on drawings, butt-jointed and cemented to top. Include end curb where tops abut end walls.
  2. Tensile Strength = 3,400 psi
  3. Hardness (Barcol Impressor) = 60
  4. Fungi and Bacterial Resistant
  5. Boiling Water and High Temperature Resistant
  6. Methacrylate-based adhesive for chemically bonding seams
  7. Form joint seams between solid surfacing components so joints are inconspicuous in appearance and without voids.
  8. Manufacturer:
    - a. Corian, Price Group C
    - b. Wilsonart Quartz
- T. **Window Sills:**
1. Solid surface windowsills to be 1/2 inch nominal thickness, butt-jointed and cemented to top, with 1" apron beneath.
  2. Tensile Strength = 3,400 psi
  3. Hardness (Barcol Impressor) = 60
  4. Fungi and Bacterial Resistant
  5. Boiling Water and High Temperature Resistant
  6. Methacrylate-based adhesive for chemically bonding seams
  7. Form joint seams between solid surfacing components so joints are inconspicuous in appearance and without void.
  8. Manufacturer: Corian

## 2.2 FABRICATION

- A. Shop assemble casework in one unit easily handled and to permit passage through building openings.
- B. Fit shelves, doors and exposed edges to be banded with PVC trim.
- C. Cap exposed plastic laminate finish edges with material of same finish and pattern.
- D. Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners.
- E. Apply laminate backing sheet to reverse side of plastic laminate finished surfaces.
- F. Glue and fasten backsplash with screws to countertop at a minimum of 12 inches on center.
- G. Millwork contractor to provide cutouts for plumbing fixtures, inserts, appliances, outlet boxes, fixtures and fittings. Verify locations of cutouts from on-site dimensions. Seal cut edges.
- H. **Millwork shall be custom fabricated as identified on drawings. Manufacturer's standard millwork may only be substituted if it matches the sizes, configurations and styles indicated on drawings. Any substitutions shall be approved by TPS prior to bidding. If not approved prior to bidding, contractor shall not be allowed**

to substitute during fabrication.

## 2.3 FINISH FOR MILLWORK

- A. General: The entire finish of millwork is work of this section.
- B. Shop Finishing: To the greatest extent possible, finish millwork at shop or factory. Defer only final touch-up, cleaning and polishing for time after delivery and installation.
- C. Preparations for Finishing: Comply with AWI Quality Standards for sanding, filling countersunk fasteners, back priming and similar preparations for finishing of architectural woodwork as applicable to each unit of work.
- D. Transparent Finish:
  - 1. AWI Finish System #3.
  - 2. Grade: Premium.
  - 3. Open Grain Woods: Filled finish.
- E. Exterior surfaces of finish wood on millwork shall have the following finish system.
  - 1. A first sealer coat shall be applied, thoroughly dried, sanded and dusted.
  - 2. A second sealer coat shall be applied and thoroughly dried.
  - 3. A double coat of chemical resistant synthetic varnish shall then be applied and thoroughly dried, providing a semi-gloss finish.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Coordinate unit models, quantities and delivery dates with Owner/Architect/CM prior to start of work.

### 3.2 INSTALLATION

- A. Installation shall be performed by personnel trained in the installation of architectural woodwork.
- B. Set and secure casework in place rigid, plumb and level.
- C. **Use #10 truss head screws to secure casework to walls.**
- D. Use purpose designed fixture attachments at concealed locations for wall mounted components.
- E. Use threaded steel concealed joint fasteners to align and secure adjoining cabinet units and countertops.
- F. Secure cabinet and counter bases to floor using appropriate angles and anchorages.
- G. Use purpose designed color matching sealant at all countertops and backsplash joints at laminate clad countertops.
- H. **Install a clear silicon sealant at joint between wall and top of backsplash at laminate clad countertops.**
- I. Provide and install wire management grommets in work surfaces where indicated on drawings. If grommets are not shown in work surfaces on drawings, provide grommets at 48" o.c. and verify exact locations with owner.

### 3.3 ADJUSTING

- A. Adjust work before delivery. Test work to be delivered for rigidity and ability to support loads.
- B. Adjust moving or operating parts to function smoothly and correctly.

### 3.4 CLEANING

- A. Clean casework, counters, shelves, hardware, fittings and fixtures.
- B. Protect millwork to ensure that work will be without damage or deterioration at the time of delivery and acceptance.

**END OF SECTION**