

SECTION 064023 - ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Plastic laminate-faced cabinetwork, including shelving, countertops, etc.
 - a. Countertop finishes include plastic laminate in dry areas, and solid surface (rigid plastic) in wet areas; refer to drawings for specific locations.
2. Cabinet hardware.
3. Fixed closet shelving and metal clothes poles.
4. Wood platform construction, including steps.
5. Fixed aluminum wall-mounted coat rack and shelving at Science Lab Room.

B. Related Sections:

1. Blocking and grounds for attachment of woodwork: Elsewhere in Division 6.
2. Caulking between architectural woodwork and any wall, floor, or ceiling joints: Division 7.
3. Wood doors: Division 8.

1.2 SUBMITTALS

A. Shop Drawings: Submit dimensioned plans and elevations and large scale details, showing location of each item, identifying components used, and indicating method of attachment.

1. Show all cabinet hardware, anchors, fastenings and accessories.
2. Show all jointing, joint treatment and butt jointing in veneers and plastic laminate.

B. Samples: Submit samples for each of the following:

1. Plastic laminate, 12 inches square, including a section of outside corner.
2. Rigid plastic (countertop material), 12 inch x 12 inch x 1/2 inch thick; submit in selected colors/patterns.
3. Cabinet hardware.

C. Product Data: Submit manufacturer's complete product information, including maintenance requirements, for rigid plastic, plastic laminate, and coat rack.

- D. Coordination Submittals: Submit coordination drawings showing locations and types of all blocking and other anchors to be built into substrates.

1.3 QUALITY ASSURANCE

- A. Standard for Materials and Workmanship: Comply with applicable requirements of "Architectural Woodwork Quality Standards", published by Architectural Woodwork Institute (AWI) (hereinafter referred to as "woodworking standard").
 - 1. Grades: As indicated herein.
- B. Where contract documents indicate requirements which are less restrictive than the woodworking standard, comply with the minimum requirements of the woodworking standard.

1.4 PRODUCT HANDLING

- A. Do not deliver products until ambient conditions required can be and are maintained.
- B. Do not deliver woodwork until wet work, painting, grinding, and similar operations in storage and installation areas which could damage, soil, or deteriorate wood work have been completed.
- C. Protect woodwork during transit, delivery, storage, and handling to prevent damage, soiling, and deterioration.
- D. Store products only in areas where ambient conditions required can be and are maintained.

1.5 PROJECT CONDITIONS

- A. Maintain temperature and humidity in storage and installation areas as required to maintain moisture content of installed woodwork within a 1 percent tolerance of the optimum moisture content determined by the fabricator; maintain required conditions from date of delivery through the remainder of the construction period.
- B. Areas to receive architectural woodwork must be fully enclosed with windows installed and glazed, exterior doors in place, HVAC systems operational and temporary openings closed. Any wet grinding and concrete work shall be fully dry.
- C. Obtain field measurements and verify dimensions before fabricating woodwork.

PART 2 - PRODUCTS

2.1 WOOD MATERIALS

- A. Lumber: Species and grade as specified in woodworking standard, except as otherwise indicated.
 - 1. Moisture content at time of fabrication: As specified in woodworking standard.

2. Provide lumber dressed on all exposed faces, unless otherwise indicated.
 3. Do not use twisted, warped, bowed, or otherwise defective lumber.
 4. Sizes indicated are nominal, unless otherwise indicated.
- B. Wood for Platform and Step Construction, Etc.: Quarter sawn, clear white oak; for transparent (sealed and stained) finish.
- C. Plywood for Core Construction: Types, grades, and cores as specified in woodworking standard.

2.2 MISCELLANEOUS MATERIALS

- A. Plastic Laminate Materials: NEMA LD 3.
1. Horizontal surfaces: 0.050 inch thick, General-Purpose Type.
 2. External vertical surfaces: 0.028 inch thick, General-Purpose Type.
 3. Postforming: 0.042 inch thick Post-forming Type.
 4. Cabinet linings: 0.020 inch thick, Cabinet-Liner Type.
 5. Concealed panel backing: 0.020 inch thick Backer Type.
 6. Core material: Softwood plywood (interior type, grade B-B) 3/4 inch thick.
 7. Fasteners: Type, size, material, and finish as required for each use.
- B. Cabinet Hardware: Comply with ANSI/BHMA A156.9 "American National Standard for Cabinet Hardware".
1. Hardware: Unless otherwise indicated, provide Architectural grade "Heavy Duty" cabinet hardware as manufactured by Hafele, Knape & Vogt or Stanley; hardware to include (but not necessarily be limited to) wire pulls, concealed hinges, slides, catches, etc.
 2. Finishes: Provide hardware in finishes shown; if not shown, as selected by Architect from standard BHMA 1301 selections.
- C. Closet Shelving:
1. Shelving material: Comply with AWI Section 600, Custom grade. Use 3/4 inch thick AA-G3-INT-DFPA birch-faced veneer plywood with hardwood edges.
 2. Metal clothes poles: 1-1/2 inches diameter steel pipe or tubing cut to required lengths, with standard wrought steel flanges (one with open end).
 - a. Finish: Satin chrome plated, BHMA 652.
- D. Rigid Plastic Countertops: Provide 1/2 inch thick "Corian" counters with integral bowls as

manufactured by E.I. Du Pont, or approved equal made by Avonite, Wilson Art or Gibraltar. Counters to be of color as selected by the Architect.

1. Material: Cast, filled, acrylic; not coated, laminated or of composite construction, meeting ANSI Z124, Type Six, and ISS FA-2.01 "Classification and Standards Publication of Solid Surfacing Material" as published by the International Solid Surface Fabricator Association.
2. Counters shall be adhesively joined with no exposed seams, having edge details shown on drawings.
3. Material shall conform to the published performance characteristics of ISSFA-2-01.
4. Joint adhesive: Manufacturer's standard two-part adhesive kit to create inconspicuous, non-porous joints.
5. Sealant: Manufacturer's standard mildew-resistant, FDA/UL recognized silicone sealant in colors matching components.

E. Aluminum Coat Rack and Shelf: R1 unit manufactured by EMCO Specialty Products Inc., Kansas City, KS, or approved equal by Magnuson Group, Woodridge, IL.

1. Wall Strips: 1/2 inch extruded aluminum 12 inches long, powder coated black.
2. Brackets: Solid cast aluminum powder coated black. Include bracket screws to allow for height adjustment.
3. Shelf Slats: Extruded aluminum with clear satin finish.
4. Hanger Bar: 1 inch black aluminum tube capped at each end.
5. Accessories: Provide standard heavy duty open hook aluminum hangers spaced 4 per foot.

2.3 FABRICATION, GENERAL

A. General:

1. Provide lumber framing for architectural woodwork, complete with all bracing and fastening devices as required for a rigid installation, and as required to sustain the imposed loads.
2. Do all fabrication from field measurement with provision for scribing as required to meet built-in conditions.
3. Coordinate the work of this Section with the work of other trades.
4. Fabricate units in largest practicable sections. Assemble in the shop for trial fit, disassemble for shipment and reassemble with concealed fasteners.
5. Maintain relative humidity and temperature during fabrication, storage and finishing operations matching that of the areas of installation.

6. Details indicate the required type and quality of construction. Modifications to conform to manufacturer's standards will be considered providing they comply with the Contract Documents, maintain the profiles shown and subject to acceptance by the Architect.
7. Reinforcing shown is minimum. Provide additional reinforcing as required to ensure a rigid assembly. Exposed surfaces shall be free from tool marks, warpage, buckle, glue and open joints, or other defects affecting serviceability or appearance. Accurately fit all joints, corners and miters. Conceal all fasteners. Make threaded connections up tight so that threads are entirely concealed.

B. Plastic Laminate Cabinetwork:

1. Comply with AWI Section 500 and its Division 500A; Premium grade.
2. Colors, Patterns and Finishes: As indicated on the drawings.
3. Install cabinet hardware.

C. Finishing of Wood Platform and Steps:

1. Comply with applicable AWI Specifications, unless otherwise indicated.
2. The entire transparent finishing of architectural woodwork is work of this section; regardless of whether factory-applied or applied after installation.
 - a. The extent to which the final finish is applied to architectural woodwork at the factory is Contractor's option, except factory-apply at least base coat to greatest extent possible prior to delivery.
3. Transparent Finish: Comply with requirements indicated below for grade, finish system, staining, effect and sheen.
 - a. Grade: Custom.
 - b. Finish: AWI Finish System #2, catalyzed lacquer.
 - c. Staining: Required; match Architect's samples.
 - d. Effect and sheen: Match Architect's samples.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Condition woodwork to humidity and temperature in installation area prior to installing.
- B. Verify that blocking and backings have been installed at appropriate locations for anchorage.

- C. Examine shop-fabricated work for completion, complete work as required, and remove packing.

3.2 INSTALLATION - GENERAL

- A. Installation Standard: Installation shall conform to the requirements of Section 1700 of AWI "Quality Standards Illustrated", Latest Edition.
- B. Install the work plumb, level, true and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8 inch in 8 feet for plumb and level (including countertops), and with 1/16 inch maximum offset in flush adjoining surfaces, 1/8 inch maximum offset in revealed adjoining surfaces.
- C. Scribe and cut work 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.
- E. Repair damaged and defective work to eliminate visual and functional defects; where repair is not possible, replace work.

3.3 ROUGH CARPENTRY AND HARDWARE

- A. Framing:
 - 1. Use specified framing lumber, sizes and spacing as indicated on drawings and as required to support loads.
 - 2. Framing shall be cut square on bearings, closely fitted, accurately set to required lines and levels, rigidly secured in place at bearings and connection with nails, lag screws and/or bolts as required by conditions.
- B. Grounds, Blocking, Nailers and Furring: Provide all wood grounds, blocking, nailers, furring, and the like for work of this Section, where shown and where required, dressed to size indicated or required to suit the condition. Install grounds, blocking, nailers, furring, etc., rigidly, in proper alignment, trued with a long straight edge.
- C. Rough Hardware:
 - 1. Provide all rough hardware, such as nails, screws, bolts, anchors, hangers, clips and similar items. Hardware shall be of the proper size and kind to adequately secure the work together and in place, in a rigid and substantial manner. Use galvanized hardware at exterior walls, and at other locations where subject to moisture or where water will be present.
 - 2. Secure work to concrete and to solid masonry with countersunk bolts in expansion sleeves or other approved manner, to steel with countersunk bolts, to hollow masonry and to drywall with heavy duty countersunk toggle bolts. Space fastenings not more than 16 inches apart. Hardened cut nails, power-driven fastenings, or other suitable devices may be used where approved by the Architect.

3. Connections and fastenings shall be made in such manner as will compensate for swelling and shrinkage and shall permit the work to remain permanently in place without any splitting or opening of joints.

3.4 CABINETWORK

A. General:

1. Materials and workmanship shall conform to the Quality Standards of the Architectural Woodwork Institute specified herein and to the drawings.
2. Fabricate all cabinetwork and millwork completely in the shop, in complete and/or as large units as practical, leaving only fitting, assembly, installation and a minimum of fabrication and finishing to be done at the building. Assembled work shall be rigidly secured and permanently fastened together with concealed fasteners.
3. As far as practicable, use concealed fastenings for joining and assembling the work. Where this is impossible, the means of securing shall be placed in inconspicuous places and methods of joining and assembling submitted for Architect's approval prior to fabrication.
4. Make all joints hairline tight, fitted accurately and joined with hardwood splines or dowels, glued together, or by other method approved by Architect. Use screws, not nails, for fastenings.
5. Gluing shall, where practicable, be by the hot plate press method and glued surfaces shall be in close contact throughout. Glue stains on finished work will not be permitted.
6. Work which adjoins drywall, concrete, or other finish shall be fitted and scribed in a careful manner and ample allowance shall be given for cutting and scribing.
7. Erect work true to lines, levels and dimensions, square, aligned and plumb, securely and rigidly fastened in place.

B. Cabinet Work: Provide all items of cabinetwork indicated on drawings and as herein specified.

1. Cabinet doors and drawers shall be flush mounted, unless otherwise indicated.
2. Adjustable shelves in cabinets shall have grommets spaced 2 inches o.c.
3. Fixed shelves shall be dadoed into side supports and glued.
4. Countertops, counters, counter fronts, shelves, etc., shall have plastic laminate shop applied to 3/4 inch thick core, with plastic laminate backing sheet on underside or back of countertops, counters and shelves. Plastic laminate shall be pressure laminated to core with laminate at external corners. Provide concealed wood framing to support plastic laminate counters, securely fastened to wall and to underside of counters.
5. Incorporate rigid plastic countertops to comply with manufacturer's recommendations and approved shop drawings.

C. Installation of Cabinet Hardware:

1. Carefully fit and secure all items of cabinet hardware in place. Locations and positioning of hardware shall be subject to the Architect's approval. Take care not to mar or damage hardware or other work. Install doors plumb and true. Fit hardware to ensure operation without forcing.
2. After preliminary fitting of hardware, remove trim for painting and finishing work; after which reinstall the hardware in a permanent manner.
3. Upon completion of the work, before final acceptance of the building by the Owner, verify that all hardware is in satisfactory working order; fit all keys in their respective locks and, upon acceptance of the work, tag and deliver all keys to the Owner.
4. Adjust and lubricate cabinet hardware for smooth operation.

3.5 INSTALLATION OF CLOSET SHELVING

- A. Install shelving on tapered (minimum 1 inch by 3 inches) hardwood pin rails firmly attached by wood screws to walls on 3 sides of closet.
- B. Fasten flanges of clothes pole to pin rails with wood screws for level, tight, permanent installation.

3.6 INSTALLATION OF COAT RACK AND SHELF

- A. Follow manufacturer's installation instructions.
- B. Install wall strip over blocking using appropriate fasteners for wall type.
- C. Install brackets, slat and rod using manufacturer's recommended fasteners.

3.7 CLEAN UP AND PROTECTION

- A. Clean Up: At regular intervals during the course of the work, clean up and remove from the site all debris and excess material. Upon completion of installation, clean all spaces of debris caused by woodwork installation.
- B. Protection: Protect all woodwork from marring, defacement or other damage until final completion and acceptance of the project by the Owner. Repair or replace all defective units prior to final inspection as directed by the Architect. Any units that cannot be satisfactorily repaired in the opinion of the Architect shall be replaced with new units of same original design, at no additional cost to the Owner.

END OF SECTION 064023