

SECTION 06 4000

ARCHITECTURAL WOODWORK

PART 1 GENERAL

1.1 SUMMARY

- A. Work of this Section consists of architectural woodwork, and includes but is not limited to the following:
 - 1. Custom-fabricated kitchen casework, transparent finish.
 - 2. Custom-fabricated lockers.
 - 3. Upholstered panels.
- B. Related Documents and Sections: Examine Contract Documents for requirements that directly affect or are affected by Work of this Section. Other Documents and Sections that directly relate to work of this Section include, but are not limited to:
 - 1. General provisions of the Contract, including General and Supplementary Conditions, and Division 01 General Requirements Specification Sections.
 - 2. Section 05 5000 - METAL FABRICATIONS.
 - 3. Section 06 2000 - FINISH CARPENTRY.
 - 4. Section 12 3640 - STONE COUNTERTOPS.
 - 5. Section 12 3661 - SIMULATED STONE COUNTERTOPS
 - 6. Division 21, PLUMBING.

1.2 SYSTEM DESCRIPTION

- A. References:
 - 1. Minimum standards for work in this Section shall be in conformity with the Architectural Woodwork Standards.
 - 2. ANSI / BHMA Standards.

1.3 SUBMITTALS

- A. Product Data: Submit manufacturer's printed product data, specifications, standard details, installation instructions, use limitations and recommendations for each material used.
- B. Provide certifications that materials and systems comply with specified requirements.
 - 1. Woodwork Quality Standard Compliance Certificates: AWS Quality Certification Program certificates.
- C. Shop Drawings: Provide large-scale Shop Drawings for fabrication, installation and erection of parts of Work. Provide plans, elevations, and details of anchorages, connections and accessory items. Provide installation templates for Work installed by others. Show interfaces and relationships to Work of other trades.
 - 1. Field Measurements: Take necessary field measurements prior to preparation of Shop Drawings.
 - 2. Record measurements on Shop Drawings.
 - 3. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

4. Coordinate casework layout with dimensional requirements of appliances specified in Section 11 3100.
5. Do not delay progress of job. If field measurements are not possible prior to fabrication, allow for field scribing for fitting.

D. Samples

1. Finish samples shall be submitted by the woodwork manufacturer for approval showing the complete finish appearance. Minimum sample sizes shall be as follows:
2. Solid Lumber: 50 sq. inches.
3. Sample Labels: Sample labels shall bear identification of the project, Architect, General Contractor, woodwork manufacturer, items to which the finish applies and the system utilized to attain the finish.
4. Protect approved samples from sunlight to prevent discoloration.
5. Plastic Laminate: 12 inch square section; each type.

E. Test Reports: Submit certified test results by a recognized testing laboratory in accordance with specified test methods for each product and/or system indicating physical, chemical and performance characteristics.

1. Manufacturer's Certificates: Certificate of Inspection for grade-marked material by American Lumber Standards (ALSC) recognized inspection agency.
2. Certificates of Grade for graded but unmarked lumber or plywood.

F. Test results for materials included in the Work.

1. Moisture Content Certificates.
2. Solid and Laminated Plastics.

G. Casework manufacturer's AWS Quality Assurance Program Certification.

1. In lieu of Certification, approved manufacturer shall agree to and understand that the Work furnished for this Project will be inspected by an Association program representative.

1.4 QUALITY ASSURANCE

A. Work shall be in accordance with the Grade or Grades specified of the Architectural Woodwork Standards.

B. AWS Quality Assurance Program.

C. Fabricator Qualifications:

1. Woodwork firm with no less than 5 years of production experience similar to a specific project, whose qualifications indicate the ability to comply with the requirements of this Section.
 - a. The woodwork manufacturer must have at least one project in the past 5 years where the value of the woodwork was within 20 percent of the cost of woodwork for this Project.

D. Source: For each material type required for work of this Section, provide primary materials which are product of one manufacturer. Provide secondary or accessory materials which are acceptable to manufacturers of primary materials.

E. Prototypes. Provide materials or assemblies of each unit type for review and approval prior to benchmarking, manufacturing or fabrication production indicating each different:

1. Joint connection detail.

2. Support, and fastener.
3. Edges and corners.
4. Finishes.

F. Preinstallation Meeting: Convene a pre-installation conference to establish procedures to maintain optimum working conditions and coordinate this Work with related and adjacent Work. Require architectural woodwork manufacturer, Installer, Contractor, and Architect to attend.

G. Warranty:

1. Contractor shall provide manufacturer's warranty against defective materials for a period of five (5) years commencing on Date of Substantial Completion.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Environmental Limitations: Do not deliver wood work until painting and other wet work has been completed in installation areas.
- B. Store materials and completed fabricated wood items in a dry, well ventilated area completely protected from the weather. Comply with temperature and humidity requirements for storage and installation as specified in the applicable quality standards.
- C. Protect sanded and prefinished surfaces during handling and installation. Keep such surfaces covered with polyethylene film or other suitable protective covering.

PART 2 PRODUCTS

2.1 WOOD

- A. Lumber shall be in accordance with the Architectural Woodwork Standards Grade specified for the product being fabricated.
- B. Panel Products: Comply with the following:
 1. Medium-Density Fiberboard: ANSI A208.2, Grade MD, made with binder containing no urea formaldehyde.
- C. Wood Products: Refer to Section 09 0600.

2.2 CASEWORK

- A. Work shall be in accordance with the Architectural Woodwork Standards requirements for its use and the Grades indicated below.
 1. Architectural Wood Casework: Premium.

2.3 CASEWORK HARDWARE AND ACCESSORIES

- A. Hardware, General: Provide TK line as manufactured by Argent Hardware, bronze finish, as selected by the Architect.
- B. Hardware Size and Quantity: Comply with hardware manufacturer's recommendations and respective AWI Quality Standards.
- C. Hinge Pivots:
 1. Concealed Hinge – Typical: Grass 3000 Series, self-closing, minimum 120 degree swing

2. Hinge Quantity: Manufacturer's recommendations, but not less than the following:

| <u>Hinge Quantity</u> | <u>Maximum Door Height</u> | <u>Maximum Door Width</u> | <u>Maximum Door Weight</u> |
|-----------------------|----------------------------|---------------------------|----------------------------|
| 2 Hinges | 35.5 inches | 24 inches | 19 lbs. |
| 3 Hinges | 60 inches | 24 inches | 38 lbs. |
| 4 Hinges | 76 inches | 24 inches | 56 lbs. |
| 5 Hinges | 92 inches | 24 inches | 75 lbs. |

D. Pulls:

1. Provide two pulls for drawers over 24 inches wide.

E. Drawer Slides:

1. Extension: Full, entire drawer body extends out to face of cabinet.
2. Static Load Capacity: Heavy Duty, 100 lbs., except Extra Heavy Duty 150 lbs. for drawers over 8 inches deep.
3. Dynamic Load Capacity: Heavy Duty 100,000 cycles 75 lbs.
4. Removal Stop: Required.
5. Self-Closing, Stay Closed: Required, at full load capacity.
6. Slide Stop to Protect Drawer Head: Required.

F. Silencers: Bumpon Quiet Clear / 3M.

G. Levelers, Base Cabinet: Camar 450-10-P2 / Peter Meler, with cover cap and toe kick clips.

H. Catches: Nylon roller spring door catches. Provide two catches on doors over 4 feet high.

I. Fasteners:

1. Phillips flat or oval head, Do not use drywall screws.
2. Fastener Diameter: Maximum possible to coordinate with factory provided holes.
3. Visible Fastener Finish and Color: Match hardware.

2.4 MISCELLANEOUS MATERIALS

A. Furring, Blocking, Shims and Hanging Strips:

1. Sheet Metal Backing: Minimum 16 gauge sheet x 8 inches. Refer to Section 09 2900 - GYPSUM BOARD.
2. Hanging Strips: Continuous aluminum channels with prepunched mounting holes every 1 inch, rated to 400 lbs for 42 inch unit.
 - a. Available Product: Hangman Products, or acceptable equivalent.

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. Handrail Brackets: Cast from malleable iron with wall flange drilled for exposed anchor and with support arm for screwing to underside of rail. Sized to provide 38 mm clearance between handrail and wall.

D. Leather and Fabrics: Refer to Section 09 0600.

E. Brass Mesh: Refer to Section 09 0600.

- F. Upholstery Foam: Upholstery foam shall be non-hardening and non-oxidizing, and resists acids, alkalis, oils, greases, soaps, abrasions, moisture, mildew and tearing. Upholstery foam shall be of neoprene or polyurethane foam 50 ILD (Indentation Load Deflection), fire rated to meet all applicable codes.
- G. Adhesives, General: Do not use adhesives that contain urea formaldehyde.
- H. VOC Limits for Installation Adhesives and Glues: Use installation adhesives that comply with the following limits for VOC content:
 - 1. Wood Glues: 30 g/L.
 - 2. Contact Adhesive: 80 g/L.
 - 3. Special Purpose Contact Adhesive: 250 g/L.

2.5 SOLID SURFACING

- A. Solid-Surfacing Material: Homogeneous solid sheets of filled plastic resin complying with ANSI SS-1 and ISSFA-2. Refer to Section 09 0600.

2.6 CASEWORK FABRICATION

- A. Wood Casework:
 - 1. Casework meeting the requirements of the Architectural Woodwork Standards:
 - a. Premium Grade.
 - 2. Casework Construction Type per Architectural Woodwork Standards:
 - a. Type B, face frame.
 - 3. Interface Style (with cabinets and doors):
 - a. Style 1, Overlay.
 - 4. Exposed Surfaces - meeting the requirements of the AWS for the Grade specified:
 - a. Species: Refer to Section 09 0600.
 - 5. Exposed and Semi-Exposed Interior Surfaces:
 - a. Per the requirements of the AWS.

2.7 FABRICATION - GENERAL

- A. Complete fabrication, including assembly, 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. Notify Architect seven days in advance of the dates and times fabrication will be complete.
- B. 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.
- C. Preparation for Related Work: Prepare casework for each related electrical, telephone, mechanical, and plumbing Work.
 - 1. Provide grommets or a finished surface for each exposed penetration or other finish modification.
- D. Shop Sealing of Concealed Wood: Required to reduce moisture intrusion.
- E. Filler Strips: Provide matching filler strips to fill gaps between casework and adjacent construction.

Scribe filler strips to fit precisely. Create reveals if indicated.

- F. Prevention of Wicking and Moisture Damage: Do not place casework end panels, or other panels or surfaces in direct contact with floors to prevent wood from absorbing or wicking moisture into casework.
 - 1. Shim and level casework off floor or construct casework over a separate non-wicking plinth assembly.
 - 2. Conceal gaps or plinth with resilient base, as shown.
- G. Appliances: Coordinate with Section 11 3100 - APPLIANCES.

2.8 SOURCE QUALITY CONTROL

- A. Where practicable, Work shall be assembled, adjusted and finished at the shop and shipped as a whole unit.
- B. Work shall be finished smooth and free from machine or tool marks that will telescope through finish.

PART 3 EXECUTION

3.1 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and will maintaining temperature between 60 and 90 deg F and relative humidity between 25 and 55 percent 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.
- C. Locate concealed framing, blocking, and reinforcements that support woodwork by field measurements before being enclosed and indicate measurements on Shop Drawings.
- D. Woodworker is responsible for the layout of any partition and area containing woodwork and shall layout and coordinate with all other trades as to ensure proper coordination.

3.2 EXAMINATION

- A. Carefully examine installation areas with Installer present, for compliance with requirements affecting Work performance.
- B. Verification of Conditions: Verify that field measurements, surfaces, substrates, structural support, utility connections, tolerances, levelness, plumbness, humidity, moisture content level, cleanliness and other conditions are as required by the manufacturer, and ready to receive Work.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 PREPARATION

- A. Field Measurements: Verify actual dimensions by field measurement prior to fabrication.
 - 1. Coordinate field measurements and fabricated items prior to shipping.

- B. Prepare substrate(s) in accordance with manufacturer's instructions, which may include the following:
 - 1. Texture surface to allow for proper bonding.
 - 2. Clean surfaces.
 - 3. Level exposed and shim hidden substrate surfaces as needed.
 - 4. Coat substrate when necessary to protect from galvanic action, separating dissimilar metal materials.
 - 5. Framing, blocking or other necessary structural reinforcement.
- C. Handle products in accordance with manufacturer's instructions and warranty requirement including, but not limited to:
 - 1. Remove shipping / storage protection.
 - 2. Acclimatizing product to installation location.
 - 3. Strictly adhering to manufacturer's handling and installation safety requirements.

3.4 INSTALLATION

- A. Proceed with installation only when required ambient conditions have been properly maintained, as determined by all attending pre-installation conference.
- B. Provide Work to sizes, shapes, and profiles indicated on approved shop drawings.
- C. Install Work to comply with quality standards as per AWS, First Edition.
- D. Color match wood at joints and seams to minimize expression of joints and seams in transparent finished Work.
- E. Install architectural woodwork plumb, level, true and straight. Shim as required using concealed shims. Install Work, including tops, to a tolerance of $\pm 1/8$ inch in 8 feet.
- F. Anchor architectural woodwork to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork.
- G. For shop finished items use filler matching finish of items being installed.
- H. Scribe and cut architectural woodwork to fit adjoining Work.
- I. Refinish exposed and seal hidden cut surfaces.
- J. Countertops: Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop.
 - 1. Align adjacent solid-surfacing-material countertops and form seams to comply with manufacturer's written recommendations using adhesive in color to match countertop. Carefully dress joints smooth, remove surface scratches, and clean entire surface.
 - 2. Install countertops with no more than 1/8 inch in 96-inch sag, bow, or other variation from a straight line.
 - 3. Secure backsplashes to tops with concealed metal brackets at 16 inches o.c. and to walls with adhesive.
 - 4. Calk space between backsplash and wall with sealant specified in Section 07 9200 - JOINT SEALANTS.

3.5 PROTECTION

- A. Provide temporary protection to ensure Work being without damage or deterioration at time of final acceptance. Remove protections and re-clean as necessary immediately before final acceptance.

END OF SECTION