

# *DIVISION 6*

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## WOOD AND PLASTICS

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## SECTION 06100

### ROUGH CARPENTRY

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. This Section includes the following:
  - 1. Wood blocking and nailers.
  - 2. Plywood backing panels.

##### 1.2 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product.
  - 1. Include data for wood-preservative and fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.
- B. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the American Lumber Standards Committee Board of Review.
- C. Research/Evaluation Reports: For the following, showing compliance with building code in effect for Project:
  - 1. Wood-preservative-treated wood.
  - 2. Fire-retardant-treated wood.

#### PART 2 - PRODUCTS

##### 2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
  - 1. Factory mark each piece of lumber with grade stamp of grading agency.
  - 2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece.
  - 3. Provide dressed lumber, S4S, unless otherwise indicated.
  - 4. Provide lumber with 19 percent maximum moisture content at time of dressing for 2-inch nominal (38-mm actual) thickness or less, unless otherwise indicated.

## 2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: Where lumber or plywood is indicated as preservative treated or is specified to be treated, comply with applicable requirements of AWPA C2 (lumber) and AWPA C9 (plywood), except that lumber is not in contact with the ground and is continuously protected from liquid water may be treated according to AWPA C31 with inorganic boron (SBX). Mark each treated item the Quality Mark Requirements of an inspection agency approved by ALSC's Board of Review.
  - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction.
    - a. Ammoniacal, or amine, copper quat (ACQ)
    - b. Copper Azole.
  - 2. Preservative Chemicals: Acceptable for painting and staining:
    - a. KDAT (Kilm dried after treatment).
  - 3. Fasteners: Provide stainless steel. Do not allow aluminum or steel to have contact with pressure preservative wood.
  - 4. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.
- C. Application: Treat indicated items and the following:
  - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
  - 2. Wood sills, sleepers, blocking and similar concealed members in contact with masonry or concrete.
  - 3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
  - 4. Wood framing members that are less than 18 inches (460 mm) above the ground in unexcavated areas.

## 2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. General: Comply with performance requirements in AWPA C20 (lumber) and AWPA C27 (plywood).
  - 1. Use treatment for which chemical manufacturer publishes physical properties of treated wood after exposure to elevated temperatures. When tested by a qualified independent testing agency according to ASTM D 5664, for lumber and ASTM D 5516 for plywood.
  - 2. Use Exterior type for exterior locations.
  - 3. Use Interior Type A, High Temperature (HT) for enclosed roof framing, framing in attic spaces, unless otherwise indicated.
- B. Identify fire-retardant-treated wood with appropriate classification marking of testing and inspecting agency acceptable to authorities having jurisdiction.
- C. Application: Treat the following rough carpentry listed below, to include but not limited to the following:
  - 1. Concealed blocking.
  - 2. Plywood backing panels.

## 2.4 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
  - 1. Blocking.
  - 2. Nailers.
- B. For items of dimension lumber size, provide Construction or No. 2 or better grade lumber with 19 percent maximum moisture content of any species.
- C. For concealed boards, provide lumber with 19 percent maximum moisture content and any of the following species and grades:
  - 1. Mixed southern pine, No. 2 grade; SPIB.
  - 2. Eastern softwoods, No. 2 Common grade; NELMA.
  - 3. Northern species, No. 2 Common grade; NLGA.
  - 4. Western woods, Construction or No. 2 Common grade; WCLIB or WWPA.

## 2.5 PLYWOOD BACKING PANELS

- A. Telephone and Electrical Equipment Backing Panels: DOC PS 1, Exposure 1, C-D Plugged, fire-retardant treated, in thickness indicated or, if not indicated, not less than 3/4-inch-nominal thickness.

## 2.6 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified.
  - 1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide stainless steel fasteners.
- B. Power-Driven Fasteners: NES NER-272.
- C. Bolts: Stainless steel bolts, hex nuts and, where indicated, flat washers.

## 2.7 MISCELLANEOUS MATERIALS

- A. Sill-Sealer Gaskets: Glass-fiber-resilient insulation, fabricated in strip form, for use as a sill sealer; 1-inch (25-mm) nominal thickness, compressible to 1/32 inch (0.8 mm); selected from manufacturer's standard widths to suit width of sill members indicated.
- B. Flexible Flashing: Self-adhesive, rubberized-asphalt compound, bonded to a high-density, polyethylene film to produce an overall thickness of not less than 0.025 inch (0.6 mm).

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Do not splice structural members between supports, unless otherwise indicated.
- C. Comply with AWWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
- D. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:

1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
  - E. Use finishing nails for exposed work, unless otherwise indicated. Countersink nail heads and fill holes with wood filler.
  - F. Fastening Methods:
    1. Plywood Backing Panels: Nail or screw to supports.
- 3.2 PROTECTION
- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION

## SECTION 06402

### ARCHITECTURAL WOODWORK

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. This Section includes the following:
  - 1. Aluminum transaction window.
  - 2. Plastic-laminate cabinets.
  - 3. Solid-surfacing-material countertops.
  - 4. Shelving
- B. Interior architectural woodwork includes wood furring, blocking, shims, and hanging strips unless concealed within other construction before woodwork installation.
- C. Hardware: Furnish all hardware for cabinets and adjustable shelves; shop-install mortise hardware. Furnish shelf brackets for field installation.
- D. Related Sections include:
  - 1. Section 05500- Metal Fabrications: Steel tubes and plates for bracing; stainless steel shackles and mounting plates.
  - 2. Section 06100-Rough Carpentry: Furring, blocking, and other carpentry work that is not exposed to view.

##### 1.2 SUBMITTALS

- A. Product Data: For solid-surfacing material, 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 location 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 for plumbing fixtures, faucets, soap dispensers, and other items installed in architectural woodwork.
  - 3. Show veneer leaves with dimensions, grain direction, exposed face, and identification numbers indicating the flitch and sequence within the flitch for each leaf.
- C. Samples:
  - 1. Plastic-laminates, for each type, color, pattern, and surface finish.
  - 2. Exposed cabinet hardware, one unit of each type and finish.
  - 3. Solid-surfacing materials.

##### 1.3 QUALITY ASSURANCE

- A. Installer Qualifications: Employs skilled installers who custom-fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.
- B. Quality Standard: Unless otherwise indicated, comply with AWI's "Architectural Woodwork Quality Standards".

- C. Source Limitations: Engage a qualified woodworking firm to assume undivided responsibility for production of interior architectural woodwork with sequence-matched wood veneers and wood doors with face veneers that are sequence matched with woodwork and transparent-finished wood doors that are required to be of same species as woodwork.
- D. Coordination: 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.
- E. Preinstallation Conference: Conduct conference at Project site.

#### 1.4 MOCK-UP

- A. Mock-Up Stage 1: At the wood fabricator's shop (if within a 60 mile radius of project site) or at a secure and properly conditioned location at or near the project site, provide mock-up of the following items:
  - 1. Counter
  - 2. Cabinet
  - 3. Approved mock-ups may become part of the completed Work if undisturbed at time of Substantial Completion.
  - 4. Units will be examined to ascertain quality and conformity to AWI quality level standards and Specification requirements.
  - 5. When accepted, mock-up will demonstrate minimum standard for the Work.

#### 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 framing, blocking, and reinforcements that support woodwork by field measurements before being enclosed, and indicate measurements on Shop Drawings.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. All Wood panel products shall be "No Added Urea Formaldehyde" (NAUF), no exceptions.
  - 1. Hardboard: AHA A135.4.
  - 2. Medium-Density Fiberboard: ANSI A208.2, Grade MD, made with binder containing no urea formaldehyde.
    - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      - 1) Sierra Pine
      - 2) Temple Inland
      - 3) Flakeboard
      - 4) Roseburg Forest Products

3. Softwood Plywood: DOC PS 1.
  - a. Plywood - Any softwood species complying with PS-1/ANSI A 199.1 standards; APA Interior Type, veneer core, B-B grade; ¾-inch thick unless otherwise indicated.
- B. Melamine: [Particleboard] Medium-density fiberboard finished with thermally fused, melamine-impregnated decorative paper complying with LMA SAT-1.
- C. High-Pressure Decorative Laminate: NEMA LD 3, Grade GP-50 (min. 0.050 inch thick: for horizontal surfaces, and NEMA LD-3, Grade GP-28 (min. 0.028 inch thick) for vertical surfaces.
  1. Cabinet Liner: High pressure decorative laminate, NEMA LD-3, Grade CL-20, (min. 0.020 inch thick), intended for cabinet interiors; light color (beige or off-white) as selected by Architect.
  2. Backing Sheet: High pressure non-decorative laminate, NEMA LD-3, Grade BK-20, (min. 0.020 inch thick), intended for concealed applications.
- D. Solid-Surfacing Material: Homogeneous solid polymer material adhesively joined with inconspicuous seams, having edges detailed as indicated on drawings and complying with ISSFA-2.
  1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Corian (Basis-of-design)
    - b. Avonite, Inc.
    - c. E. I. du Pont de Nemours and Company.
    - d. Formica Corporation.
    - e. Nevamar Company, LLC; Decorative Products Div.
    - f. Transolid, Inc.
    - g. Wilsonart International; Div. of Premark International, Inc.
- E. Tempered Float Glass for Transaction Window: ASTM C 1048, Kind FT, Condition A, Type I, Class 1 (clear), Quality-Q3, with exposed edges seamed before tempering, 6 mm thick, unless otherwise indicated.

## 2.2 CABINET HARDWARE AND ACCESSORIES

- A. General: Provide cabinet hardware and accessory materials associated with architectural woodwork, except for items specified in Division 08 Section "Door Hardware".
- B. Frameless Concealed Hinges (European Type): BHMA A156.9, B01602, self-closing.
- C. Pulls: Hafele; Matt Stainless Steel Finish
  1. Drawers: No. 115.70.001 4.5-inch length.
  2. Cabinets: No. 115.70.002 5.8-inch length.
  3. Shower Door No. 15.70.005 13.3 inch length.
- D. Drawer Slides: BHMA A156.9, B05091.
  1. Standard Duty (Grade 1, Grade 2, and Grade 3): Side mounted and extending under bottom edge of drawer; full-extension type; zinc-plated steel or epoxy-coated steel with polymer rollers.
  2. Heavy Duty (Grade 1HD-100 and Grade 1HD-200): Side mounted; full-overtravel-extension type; zinc-plated steel ball-bearing slides.
  3. Box Drawer Slides: Grade 1; for drawers not more than 6 inches (150 mm) high and 24 inches (600 mm) wide
  4. File Drawer Slides: Grade 1HD-100; for drawers more than 6 inches (150 mm) high or 24 inches (600 mm) wide.

5. Keyboard Drawers: Hafele; Deluxe Keyboard System - Model 300 or prior approved equal.
6. Pencil Drawer Slides: Grade 2; for drawers not more than 3 inches (75 mm) high and 24 inches (600 mm) wide.
7. Keyboard Slides: Grade 1; for computer keyboard shelves.
- E. Aluminum Slides for Sliding Glass Doors: BHMA A156.9, B07063. Provide sliding glass transaction window as indicated on the drawings.
- F. Locking Hardware: Blumcraft of Pittsburgh; CH-800 or prior approved equal. Provide locks at all cabinet doors and drawers, unless noted otherwise.
- G. Grommets for Cable Passage through Countertops: 2-inch (51-mm) OD, solid brass grommet liner and grommet cap.
  1. Grommet: Provide "MM3A" by Doug Mockett & Company, Inc. or prior approved equal.
  2. Grommet Cap: "MM3" by Doug Mockett & Company, Inc. or prior approved equal.
- H. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.
  1. Satin Stainless Steel: BHMA 630.
- I. For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in BHMA 156.9.

## 2.3 MISCELLANEOUS MATERIALS

- A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, fire-retardant-treated, kiln-dried to less than 15 percent moisture content.
- B. Adhesives, General: Do not use adhesives that contain urea formaldehyde.

## 2.4 FABRICATION

- A. General: Complete fabrication to maximum extent possible before shipment to Project site. Where necessary for fitting at site, provide allowance for scribing, trimming, and fitting.
  1. Fabricate to AWI Premium quality standards.
  2. Shop cut openings to maximum extent possible. Sand edges of cutouts to remove splinters and burrs. Seal edges of openings in countertops with a coat of varnish.
  3. Install glass to comply with applicable requirements in Division 08 Section "Glazing" and in GANA's "Glazing Manual." For glass in wood frames, secure glass with removable stops.
- B. Shelving: 3/4-inch (19-mm) particleboard shelving with radiused and filled front edge.
  1. Intermediate Support: Shelves spanning over 36-inches shall receive intermediate supports.
  2. Provide 87/187 Heavy-duty 12-gauge steel standards and brackets by Knappe & Vogt Manufacturing Company.
- C. Plastic-Laminate Cabinets:
  1. Quality Standard: Comply with AWI Section 400 requirements for Laminate cabinets.
  2. Grade: Custom.
  3. AWI Type of Cabinet Construction: Flush overlay.
  4. Grain or Pattern Direction: Grain or Pattern Direction: Vertically for doors, and fixed panels. Horizontal for drawer fronts.
  5. Laminate Cladding for Exposed Surfaces: High-pressure decorative laminate over 3/4-inch particleboard as follows:

- a. Horizontal Surfaces Other Than Tops: Grade HGS.
  - b. Postformed Surfaces: Grade HGP.
  - c. Vertical Surfaces: Grade HGS.
  - d. Edges: PVC edge banding, 0.12 inch (3-mm) thick, matching laminate in color, pattern and finish.
    - 1) All edge banding must be free of delamination, bubbles, and all adhesive residues.
    - 2) All edges must be banded.
6. Materials for Semiexposed Surfaces Other Than Drawer Bodies: Melamine, over 3/4-inch particleboard..
- a. To include, but not limited to the following:
    - 1) Interior shelving.
  - b. Melamine Color:
    - 1) To be selected by Architect.
  - c. Edges of Plastic-Laminate Shelves: PVC edge banding, 0.12 inch (3-mm) thick, matching laminate in color, pattern and finish.
    - 1) All edge banding must be free of delamination, bubbles, and all adhesive residue.
    - 2) All edges must be banded.
7. Drawer Sides and Backs: High pressure decorative laminate (melamine) on 7 ply veneer core substrate; all visible surfaces with drawer in normal open position, compatible with interior finish or solid hardwood lumber (minimum of 1/2-inch thick).
- a. Melamine Color:
    - 1) To be selected by Architect.
8. Drawer Bottoms: Melamine, over 1/4-inch veneer core panel product "B" face hardwood veneer or thermoset decorative overlay panel product.
- a. Melamine Color:
    - 1) To be selected by Architect.
9. Joinery for Case Body Members:
- a. Tops, Exposed Ends and Bottoms:
    - 1) Stop dado, glued under pressure and either nailed, or screwed (fasteners will not be visible on exposed parts).
    - 2) Doweled, glued under pressure (approximately 4 dowels per foot of joint).
    - 3) European assembly screws (37 mm from end, 128 mm on center, fasteners will not be visible on exposed parts).
  - b. Exposed End Corner Details and Face Frame Attachment:
    - 1) Mitered joint: lock miter or spline or biscuit, glued under pressure (no visible fasteners).
    - 2) Non-mitered joints, i.e. 90 degree applications: butt joint glued under pressure (no visible fasteners).
  - c. Cabinet Backs - Wall Hung: Wall hung cabinet backs must be relied upon to support the full weight of the cabinet and its anticipated load for hanging/mounting purposes. Hanging/mounting mechanisms should transfer load to case body members.
    - 1) Full bound, captured in grooves on cabinet sides, top and bottom.
    - 2) Full overlay, plant-on backs: Minimum 1/2-inch thick attached with minimum #12 plated (not case-hardened) screws spaced minimum 3-inches on center. Anchor strips not required for backs 1/2-inch and

- thicker so attached. Edge of back should not be exposed on finished ends.
- d. Cabinet Backs - Floor Standing:
    - 1) Side bound, captured in grooves; glued and fastened to top and bottom.
    - 2) Full overlay, plant-on backs: minimum 1/2-inch thick attached with minimum #12 plated (not case-hardened) screws spaced minimum 3-inches on center. Anchor strips not required for back 1/2-inch and thicker so attached. Edge of back should not be exposed on finished ends.
  - e. Anchor Strips for cabinet backs less than 1/2-inch thick: Minimum 1/2-inch thick lumber or panel product, minimum 2-1/2-inches width; securely attached to the wall side of the cabinet back - top and bottom for wall hung cabinets, top only for floor standing cabinets.
- 10. Drawer Construction Techniques and Supports:
    - a. Multiple Dovetail (all corners), French Dovetail front/dadoed back, glued under pressure.
    - b. Doweled, glued under pressure (minimum 32 mm dowel spacing to 4-inch high, 64 mm dowel spacing above 4-inches).
    - c. Lock Shoulder, glued and pin nailed.
    - d. Bottoms shall be set into sides, back and front, 1/4-inch deep groove with minimum 3/8-inch standing shoulder.
  - 11. Drawer Hardware Static Load: Combination metal and roller bearing drawer slides.
  - 12. Adjustable Shelf Techniques and Support: Metal shelf standards (recessed flush) or Multiple holes (minimum 5-mm diameter with pins).
  - 13. Colors, Patterns, and Finishes: As selected by Architect from laminate manufacturer's full range of solid colors, wood grains or pattern finishes.
  - 14. Provide dust panels of 1/4-inch (6.4-mm) plywood or tempered hardboard above compartments and drawers, unless located directly under tops.
- D. Solid-Surfacing-Material Countertops:
- 1. Solid-Surfacing-Material Thickness: 3/4 inch (19 mm).
  - 2. Colors, Patterns, and Finishes:
    - a. Color/Pattern: As selected by Architect.
    - b. Finish: Provide surfaces with a uniform finish.
      - 1) Semi-Gloss: Gloss range of 20 to 50..
  - 3. Fabricate tops in one piece with shop-applied backsplashes and edges, unless otherwise indicated. Comply with solid-surfacing-material manufacturer's written recommendations for adhesives, sealers, fabrication, and finishing.
  - 4. Drill holes in countertops for plumbing fittings and under mount sink in shop.
    - a. Fabrication and Installation as recommended per solid-surfacing manufacturer.

## 2.5 SHOP FINISHING

- A. Final touchup, filling countersunk fasteners, cleaning and polishing after installation.

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**PART 3 - EXECUTION**

**3.1 INSTALLATION**

- A. Before installation, condition woodwork to average prevailing humidity conditions in installation areas. Examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming.
- B. Grade: Install woodwork to comply with requirements for the same grade specified in Part 2 for fabrication of type of woodwork involved.
- C. Install woodwork level, plumb, true, and straight to a tolerance of 1/8 inch in 96 inches (3 mm in 2400 mm). Shim as required with concealed shims.
- D. Scribe and cut woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
- E. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing as required for complete installation. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork and matching final finish if transparent finish is indicated.
- F. 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.
  - 1. Fasten wall cabinets through back, near top and bottom, at ends and not more than 16 inches (400 mm) o.c.
- G. Countertops: Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop. Calk space between backsplash and wall with sealant specified in Division 07 Section "Joint Sealants."

END OF SECTION

