

# *DIVISION 6*

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## WOOD AND PLASTICS

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ARCHITECTURE  
INTERIOR DESIGN  
PLANNING



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## SECTION 06100

### ROUGH CARPENTRY

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. **Section Includes:** Wood grounds, nailers, blocking, and plywood backing panels.
- B. **Related Sections:**
  - 1. Section 06400 –Architectural Woodwork: Interior woodwork and finish carpentry items exposed to view.
  - 2. Section 09250 – Gypsum board Assemblies

##### 1.2 SUBMITTALS

- A. **Product Data:** Submit the following:
  - 1. Construction adhesives.
  - 2. Manufacturer's product specifications and handling and storage recommendations for treated wood.
  - 3. Wood treatment data as follows in addition to chemical treatment manufacturer's instructions for handling, storing, installation, and finishing of treated material:
    - a. For each type of preservative treated wood product include certification by treating plant stating type of preservative solution and pressure process used, net amount of preservative retained, and compliance with applicable standards.
    - b. For water-borne treated products include statement that moisture content of treated materials was reduced to levels indicated prior to shipment to project site.
    - c. For fire-retardant-treated wood products include certification by treating plant that treated material complies with specified standard and other requirements.
    - d. Material test reports from qualified independent testing laboratory indicating and interpreting test results relative to compliance of fire-retardant-treated wood products with requirements indicated.
    - e. Warranty of chemical treatment manufacturer for each type of treatment.
  - 4. Research reports or evaluation reports of the International Building Code Conference International evidencing compliance of the following wood products with specified requirements and building code in effect for Project.
    - a. Power driven fasteners.
    - b. Fire-retardant treated wood.

##### 1.3 DELIVERY, STORAGE, AND HANDLING

- A. **Delivery and Storage:** Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks and under temporary coverings including polyethylene and similar materials.
  - 1. For lumber and plywood pressure treated with waterborne chemicals, place spacers between each bundle to provide air circulation.

## PART 2 - PRODUCTS

### 2.1 LUMBER, GENERAL

- A. **Lumber Standards:** Furnish lumber manufactured to comply with PS 20 "American Softwood Lumber Standard" and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's (ALSC) Board of Review.
- B. **Inspection Agencies:** Inspection agencies and the abbreviations used to reference them with lumber grades and species include the following:
  - 1. SPIB - Southern Pine Inspection Bureau.
  - 2. WCLIB - West Coast Lumber Inspection Bureau.
  - 3. WWPA - Western Wood Products Association.
- C. **Nominal sizes** are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for moisture content specified for each use.
  - 1. Provide dressed lumber, S4S, unless otherwise indicated.
  - 2. Provide seasoned lumber with 19 percent maximum moisture content at time of dressing and shipment for sizes 2 inches or less in nominal thickness, unless otherwise indicated.

### 2.2 LUMBER

- A. **General:** Provide lumber for support or attachment of other construction including curbs and support bases, cant strips, bucks, nailers, blocking, furring, grounds, stripping, and similar members.
- B. **Material:** Fabricate miscellaneous lumber from dimension lumber and boards of sizes and grades indicated and into arrangements shown.
- C. **Moisture Content:** 19 percent maximum for lumber items not specified to receive wood preservative treatment.
- D. **Grade:** "Standard" grade light-framing-size lumber of any species or board-size lumber as required. "No. 3 Common" or "Standard" grade boards per WCLIB or WWPA rules or "No. 2 Boards" per SPIB rules.

### 2.3 CONSTRUCTION PANELS

- A. **Plywood Panel Standards:** Comply with PS 1 "U.S. Product Standard for Construction and Industrial Plywood" for plywood construction panels and, for products not manufactured under PS 1 provisions, with APA PRP-108.
- B. **Trademark:** Furnish plywood construction panels that are each factory-marked with APA trademark evidencing compliance with grade requirements.
- C. **Particle Panels:** Manufacture and factory-mark each particleboard panel to comply with ANSI A208.1 for grade indicated. Provide thickness indicated.
- D. **Plywood Backing Panels:** For mounting electrical or telephone equipment, provide fire-retardant-treated plywood panels with grade designation, APA C-D PLUGGED EXPOSURE 1, in thickness indicated, or, if not otherwise indicated, not less than 1/2 inch.

### 2.4 FASTENERS

- A. **General:** Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with a hot-dip zinc coating per ASTM A 153 or of AISI Type 304 stainless steel.
- B. **Screws for Metal Framing:** 1-inch long self-drilling, self-tapping bugle head screws with corrosion resistant coating.
- C. **Nails, Wire, Brads, and Staples:** FS FF-N-105.
- D. **Power Driven Fasteners:** National Evaluation Report NER-272.
- E. **Wood Screws:** ANSI B18.6.1.
- F. **Lag Bolts:** ANSI B18.2.1.
- G. **Bolts:** Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and where indicated, flat washers.
- H. **Adhesives:** For field gluing plywood panels to framing, provide formulation complying with APA AFG-01.

## 2.5 PRESERVATIVE WOOD TREATMENT BY PRESSURE PROCESS

- A. **General:** Where lumber or plywood is indicated as preservative-treated wood or is specified herein to be treated, comply with applicable requirements of AWWA Standards C2 (Lumber) and C9 (Plywood). Mark each treated item with the AWPB or SPIB Quality Mark Requirements.
- B. **Pressure Treatment:** Comply with applicable requirements of AWWA C2 (lumber) and AWWA C9 (plywood). Mark each treated item with the Quality Mark Requirements of an inspection agency approved by ALSC/s Board of Review. Pressure-treat all lumber with waterborne preservatives to a minimum retention of 0.40 lb/cu. ft (6.4 kg/cu. m). 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, furring, stripping, and similar concealed members in contact with masonry or concrete.
  3. Wood floor plates installed over concrete slabs directly in contact with earth.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. **Material Selection:** Discard material with defects and that are too small to use with minimum joints or optimum joint arrangement.
- B. **Material Installation:** Set rough carpentry to required levels and lines, with members plumb and true to line and cut and fitted.
  1. Fit rough carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction.
- C. **Fasteners:** Securely attach rough carpentry by anchoring and fastening as indicated.
  1. Use common wire nails, unless otherwise indicated. Use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; pre-drill as required.

### 3.2 WOOD GROUNDS, NAILERS, BLOCKING, AND SLEEPERS

- A. **Installation:** Install wood grounds, nailers, blocking, and sleepers where shown and where required for screeding or attachment of other work. Arrange as shown and shim as necessary for true line and level of work to be attached.
- B. **Anchorage:** Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surfaces, unless otherwise indicated. Build into masonry during installation of masonry work. Where possible, anchor to formwork before concrete placement.
- C. **Plaster Grounds:** Install permanent grounds of dressed, preservative treated, key-beveled lumber not less than 1 1/2 inches wide and of thickness required to bring face of ground to exact thickness of finish material involved. Remove temporary grounds when no longer required.

### 3.3 INSTALLATION OF CONSTRUCTION PANELS

- A. **General:** Comply with applicable recommendations contained in Form No. E30, "APA Design/Construction Guide - Residential & Commercial," for types of construction panels and applications indicated.
- B. **Vertical Plywood sheathing at roof terminations:** Exterior grade, treated, fire-retardant plywood sheathing shall be used vertically at all roof transitions to a vertical wall. Plywood shall be carried at least 20" minimum above finished roof surface and thickness shall match adjacent sheathing thickness for a flush installation.
- C. **Fastening Methods:** Fasten panels as indicated below:
  - 1. Attach to metal framing with self-drilling, self-tapping, corrosion-resistant screws.

END OF SECTION

## SECTION 06400

### ARCHITECTURAL WOODWORK

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. **Description:** Provide architectural woodwork as indicated on the Drawings and specified in this Section. Architectural woodwork includes all exposed wood and plastic fabrications commonly known as "finish carpentry" or "millwork", together with related hardware, and solid surfacing countertops, unless such items are specified in another Section of these Specifications. Locations and extent of architectural woodwork items are indicated on the Drawings.
- B. **Types of Architectural Woodwork:** This Section includes but is not necessarily limited to the following.
1. Interior standing and running trim with opaque finish.
  2. Cabinets and tops, plastic (casework).
  3. Solid surfacing countertops
  4. Shelving (fixed and adjustable, wood and plastic laminate).
  5. Closet and utility shelving.
  6. Hardware for cabinets and adjustable shelves.
  7. Definitions: "Exposed", "semi-exposed" and "concealed" as used in this Section to describe surfaces and materials shall be as defined in AWI "Quality Standards".
- C. **Hardware:** Furnish all hardware for cabinets and adjustable shelves; shop-install mortise hardware. Furnish, for field installation, shelf brackets and closet hanging rods.
- D. **Rough Hardware:** Furnish and install clip angles and brackets for supporting and attaching woodwork items. Install rough hardware items specified in Section 05500 for supporting and attaching woodwork items.
- E. **Related Work:**
1. Section 03301 - Cast-in-Place Concrete Repair: For work if this section abutting concrete.
  2. Section 06100 - Rough Carpentry includes furring, blocking, and other carpentry work that is not exposed to view.
  3. Section 09910 - Painting includes final finishing of installed architectural woodwork.

##### 1.2 QUALITY ASSURANCE

- A. **Manufacturer Qualifications:** Engage a firm experienced in successfully producing architectural woodwork similar to that indicated for this Project, with sufficient production capacity to produce required units without causing delay in the Work.
- B. **Installer Qualifications:** Arrange for installation of architectural woodwork by installers that can demonstrate successful experience in installing architectural woodwork items similar in type and quality to those required for this project.
- C. **AWI Quality Standard:** Comply with applicable requirements of "Architectural Woodwork Quality Standards" published by the Architectural Woodwork Institute (AWI) except as otherwise indicated.

### 1.3 SUBMITTALS

- A. **General:** Submit the following in accordance with General Provisions.
- B. **Product Data:** Manufacturers' specifications and recommendations for the following products incorporated into items of architectural woodwork:
  - 1. Solid surfacing material.
  - 2. Cabinet hardware and accessories.
  - 3. Metal wall panel system
- C. **Shop Drawings:** Dimensioned, detailed drawings prepared by manufacturer showing location of each item, plans and elevations, large-scale details, attachment devices, and other components.
- D. **Samples for Verification Purposes:**
  - 1. Laminate clad and metal panel products, 8-1/2 inches by 11 inches for each type, color, pattern, and surface finish. Provide samples of the following components, with specified edge treatment on two adjacent edges:
    - a. Tops.
    - b. Cabinet doors.
    - c. Cabinet end.
  - 2. Solid surfacing material : 8-1/2 inches, by 11 inches for each type, color, pattern, and surface finish.
  - 3. Exposed cabinet hardware, one unit of each type and finish.
  - 4. Decorative metal samples, approximately 8 inches by 10 inches, for each material and finish.

### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. **Protection:** Protect woodwork during transit, delivery, storage, and handling to prevent damage, soiling, and deterioration.
- B. **Delivery:** Do not deliver woodwork until painting, wet work, grinding, and similar operations that could damage, soil, or deteriorate woodwork have been completed in installation areas.
- C. **Storage:** Store items at project site in installation spaces where possible. If woodwork must be stored in other than installation areas, store only in areas whose environmental conditions meet requirements specified in "Project Conditions."

### 1.5 PROJECT CONDITIONS

- A. **Environmental Conditions:** Obtain and comply with Woodwork Manufacturer's advice for optimum temperature and humidity conditions for woodwork during its storage and installation. Do not install woodwork until these conditions have been attained and stabilized so that woodwork is within plus or minus 1.0 percent of optimum moisture content from date of installation through remainder of construction period.
- B. **Field Measurements:** Where woodwork is indicated to be fitted to other construction, check actual dimensions of other construction by accurate field measurements before manufacturing woodwork; show recorded measurements on final shop drawings. Coordinate manufacturing schedule with construction progress to avoid delay of Work.
  - 1. Where field measurements cannot be made without delaying the Work, guarantee dimensions and proceed with manufacture of woodwork without field measurements. Coordinate other construction to ensure that actual dimensions correspond to guaranteed dimensions.

## **PART 2 - PRODUCTS**

### **2.1 PRODUCT STANDARDS**

- A. General:** Provide materials that comply with requirements of the AWI woodworking standard for each type of woodwork and quality grade indicated.
- B. Components:** Where the following products are part of woodwork, comply with requirements of the following product standards:
1. Hardboard: ANSI/AHA A135.4.
  2. Medium Density Fiberboard: ANSI A208.2.
  3. Particleboard: ANSI A208.1.
  4. Softwood Plywood: PS 1.
- C. Formaldehyde Emission Levels:** Comply with formaldehyde emission requirements of each voluntary standard referenced below:
1. Particleboard: NPA 8.
  2. Medium Density Fiberboard: NPA 9.
  3. Hardwood Plywood: HPMA FE.

### **2.2 BASIC MATERIALS**

- A. Requirements:**
1. Moisture content - 8 to 13 percent for interior items, 10 to 15 percent for exterior items.
  2. Shop applied veneer - All plastic laminate shall be shop applied, unless otherwise specifically indicated.
  3. Glue - Moisture resistant type recommended by manufacturer of material to be glued.
  4. Finishes -
    - a. Opaque: Woodwork indicated to be painted shall receive painted finish under "Section 09910 - Painting".
- B. Plastic Laminate Construction:**
1. Colors, Patterns, Textures: Selected by the Architect, as indicated on the Drawings.
  2. Face Veneer: High pressure decorative laminate, NEMA LD-3, Grade GP-50 (min. 0.050" thick) for horizontal surfaces, and NEMA LD-3, Grade GP-28 (min. 0.028" thick) for vertical surfaces.
  3. Cabinet Liner: High pressure decorative laminate, NEMA LD-3, Grade CL-20, (min. 0.020" thick), intended for cabinet interiors; light color (beige or off-white) as selected by Architect.
  4. Backing Sheet: High pressure non-decorative laminate, NEMA LD-3, Grade BK-20, (min. 0.020" thick), intended for concealed applications.
  5. Core Material: Close-grained hardwood veneer plywood, AWI Grade III, exterior type, at tops with sinks and lavatories.
  6. Melamine Panels (AWI "LPDL" overlay): "Domtar Decorative Panels" or similar medium density particleboard or fiberboard panels with thermally fused melamine resin-impregnated face. Melamine panels shall meet or exceed American Laminators Assn. "Performance Standard for Thermoset Decorative Panels - ALA 1988".
- C. Hardwood for Opaque Finish:** AWI Grade II for exposed and Grade III for semi-exposed portions.
1. Lumber: Birch, Basswood, Gum, Poplar, or other close-grained species, at the manufacturer's option.

2. Plywood: Hardwood veneer plywood, 3/4-inch thick unless otherwise indicated.
  - a. Species - Birch, Basswood, Gum, Poplar, or other close-grained species at the manufacturer's option.
  - b. Veneer cut, match and grain direction - Manufacturer's option, except face veneer shall be parallel to long dimension of shelves.
  - c. Core construction - Veneer core. Medium density particleboard core conforming with ANSI A208.1 may be substituted for veneer core, except at shelves.
3. Band exposed plywood edges with compatible hardwood.

**D. Softwood Lumber and Plywood for Concealed Applications: AWI Grade III.**

1. Lumber - Any species graded by SPIB, WCLIB, or WWPA, at the manufacturer's option.
2. Plywood - Any softwood species complying with PS-1/ANSI A199.1 standards; APA Interior Type, veneer core, B-B grade; 3/4-inch thick unless otherwise indicated.

**2.3 STANDING AND RUNNING TRIM FOR OPAQUE FINISH**

**A. Quality Standard:** Comply with AWI Section 300.

**B. Grade:** Custom Grade.

**C. Lumber Species:** Hardwood for opaque finish indicated under BASIC MATERIALS.

1. Provide split species on trim that face areas with different wood species, matching each face of woodwork to species and cut of finish wood surfaces in areas finished.

**D. Fabrication:** Backout or groove backs of flat trim members and kerf backs of other wide flat members, except for members with ends exposed in finished work.

1. Assemble casings in plant except where limitations of access to place of installation require field assembly.

**2.4 SOLID SURFACING MATERIAL COUNTERTOPS**

**A. Quality Standard:** Comply with AWI Section 400 and its Division 400C.

**B. Grade:** Custom Grade throughout.

**C. Fabrication:** Fabricate tops in one piece with shop-applied backsplashes and edges, unless otherwise indicated. Comply with solid surfacing material manufacturing manufacturer's recommendations for adhesives, sealers, fabrication, and finishing.

1. Drill holes in countertops for plumbing fittings and soap dispensers in the shop.
2. Thickness: 1/2 inch minimum or as otherwise indicated.
3. Manufacturer and Colors: DuPont Corian, colors as shown on drawings.

**2.5 FIRE-RETARDANT-TREATED MATERIALS**

**A. General:** Where indicated, use materials impregnated with fire-retardant chemical formulations indicated by a pressure process or other means acceptable to authorities having jurisdiction to produce products with fire-test-response characteristics specified.

1. Do not use treated material that does not comply with requirements of referenced woodworking standard or that is warped, discolored, or otherwise defective.
2. Use fire-retardant-treatment formulations that do not bleed through or otherwise adversely affect finishes. Do not use colorants in solution to distinguish treated material from untreated material.

