

DIVISION 6

WOOD AND PLASTICS

SECTION 6A

ROUGH CARPENTRY

PART I GENERAL

6A1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the printed form of the Contract and Division 1 of these specifications entitled "General Requirements", which are hereby made a part of this Section of the Specifications.
- B. Equality of material, article, assembly or system, other than those named or described in this Section will be determined in accordance with the provisions of the Contract Form.

6A1.02 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

6A1.03 DESCRIPTION OF WORK:

- A. **Definition:** Rough carpentry includes carpentry work not specified as part of other sections and which is generally not exposed, except as otherwise indicated.
- B. Types of work in this section include rough carpentry for:
 - 1. Wood framing.
 - 2. Wood grounds, nailers, and blocking.
 - 3. Sheathing.
- C. Finish carpentry is specified in another section within Division 6.

6A1.04 SUBMITTALS:

- A. **Wood Treatment Data:** Submit chemical treatment manufacturer's instructions for proper use of each type of treated material.

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1. **Preservative Treatment:** For each type specified, include certification by treating plant stating type of preservative retained and conformance with applicable standards.
2. **For water-borne treatment,** include statement that moisture content of treated materials was reduced to levels indicated prior to shipment to project site.

6A1.05 **PRODUCT HANDLING:**

- A. **Delivery and Storage:** Keep materials dry at all times. 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 material stacks.

6A1.06 **PROJECT CONDITIONS:**

- A. **Coordination:** Fit carpentry work to other work; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds and similar supports to allow attachment of other work.

PART II - PRODUCTS

6A2.01 **LUMBER, GENERAL:**

- A. **Lumber Standards:** Manufacture lumber 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 with lumber grades and species include the following:
1. NLGA - National Lumber Grades Authority.
 2. SPIB - Southern Pine Inspection Bureau.
 3. WCLIB - West Coast Lumber Inspection Bureau.
 4. WWPA - Western Wood Products Association.
- C. **Grade Stamps:** Factory-mark each piece of lumber with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of

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surfacing, and mill.

- D. 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 seasoned lumber with 19% maximum moisture content at time of dressing and shipment for sizes 2" or less in nominal thickness.

6A2.02 DIMENSION LUMBER:

- A. For light framing (2" to 4" thick, 2" to 4" wide), provide the following grade.
1. Utility grade.
 2. Spruce-Pine-Fir graded under NLGA rules.
- B. For structural light framing (2" to 4" thick, 2" to 4" wide), provide the following grade and species:
1. No. 2 grade.
 2. Same species as indicated for structural framing grade below.
- C. For structural framing (2" to 4" thick, 5" and wider), provide the following grade and species:
1. No. 2 grade.
 2. Hem-Fir graded under WPA rules.
 3. Structural lumber shall meet or exceed the following values:

Fb (minimum extreme fiber stress in bending); 1500 psi.

E (minimum modulus of elasticity); 1,500,000 psi.

6A2.03 MISCELLANEOUS LUMBER:

- A. Provide wood for support or attachment of other work including cant strips, bucks, nailers, blocking, furring, grounds, stripping and similar members. Provide lumber of sizes indicated, worked into shapes shown, and as follows:
1. Moisture content: 19% maximum for lumber items not

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specified receive wood preservative treatment.

2. **Grade:** Construction 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. 3 boards per SPIB rules.

6A2.04 CONSTRUCTION PANELS:

- A. **Construction Panel Standards:** Comply with PS 1 "U.S. Product Standard for Construction and Industrial Plywood" for plywood panels and, for products not manufactured under PS 1 provisions, with American Plywood Associates (APA) "Performance Standard and Policies for Structural-Use Panels", Form No. E445.
- B. **Trademark:** Factory-mark each construction panel with APA trademark evidencing compliance with grade requirements.
- C. **Concealed APA Performance-Rated Panels:** Where construction panels will be used for the following concealed types of applications, provide APA Performance-Rated Panels complying with requirements indicated for grade designation, span rating, exposure durability classification, edge detail (where applicable) and thickness.
- D. **Plywood Backing Panels:** For mounting electrical or telephone equipment, provide fire-retardant treated plywood panels with grade designation, APA C-D PLUGGED INT with exterior glue, in thickness indicated, or, if not otherwise indicated, not less than 1/2".

6A2.05 GYPSUM SHEATHING:

- A. **Gypsum Sheathing Standards:** Provide gypsum sheathing board complying with FS 55-L-30 for Type II (sheathing), Class 2 (water-resistant surfaces), Form a (plain back), Grade (core) and Style indicated below; and with ASTM C 79.
 1. **Grade W:** Water-resistant treated core.
 2. **Style:** Square edges and ends.
 3. **Thickness:** 1/2".
 4. **Size:** 4'-0" x 8'-0" or 9'-0" as required for coordination with framing.

6A2.06 MISCELLANEOUS MATERIALS:

- A. **Fasteners and Anchorages:** Provide size, type, material and finish as indicated and as recommended by applicable standards, complying with applicable Federal Specifications for nails, staples, screws, bolts, nuts, washers and anchoring devices. Provide metal hangers and framing anchors of the size and type recommended by the manufacturer for each use including recommended nails.
1. Where rough carpentry work is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners and anchorages with a hot-dip zinc coating (ASTM A 153).
- B. **Building Paper:** ASTM D 226, Type I; asphalt saturated felt, non-perforated, 15-lb. type.

6A2.07 WOOD TREATMENT BY PRESSURE PROCESS:

- A. **Preservative Treatment:** Where lumber or plywood is indicated as "Trt-Wd" or "Treated," or is specified herein to be treated, comply with applicable requirements of AWPA Standards C2 (Lumber) and C9 (Plywood) and of AWPB Standards listed below. Mark each treated item with the AWPB Quality Mark Requirements.
1. **Pressure-treat above-ground items with water-borne preservatives complying with AWPB LP-2.** After treatment, kiln-dry to a maximum moisture content, respectively of 19% and 15%. Treat indicated items and the following:
 - Wood cants, nailers, curbs, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers and waterproofing.
 - Wood sills, sleepers, blocking, furring, stripping and similar concealed members in contact with masonry or concrete.
 2. **Complete fabrication of treated items prior to treatment, where possible.** If cut after treatment, coat cut surfaces with heavy brush coat of same chemical used for treatment and to comply with AWPA M4. Inspect each piece of lumber or plywood after drying and discard damaged or defective pieces.

PART III - EXECUTION

6A3.01 INSTALLATION, GENERAL:

- A. Discard units of material with defects which might impair quality of work, and units which are too small to use in fabricating work with minimum joints or optimum joint arrangement.
- B. Set carpentry work to required levels and lines, with members plumb and true to line and cut and fitted.
- C. Securely attach carpentry work to substrate by anchoring and fastening as shown and as required by recognized standards. Countersink nail heads on exposed carpentry work and fill holes.
- D. Use common wire nails, except as 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; predrill as required.

6A3.02 WOOD GROUNDS, NAILERS, BLOCKING AND SLEEPERS:

- A. Provide wherever shown and where required for screeding or attachment of other work. Form to shapes as shown and cut as required for true line and level of work to be attached. Coordinate location with other work involved.
- B. 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. Provide permanent grounds of dressed, preservative treated, key-bevelled lumber not less than 1-1/2" wide and of thickness required to bring face of ground to exact thickness of finish material involved. Remove temporary grounds when no longer required.

6A3.03 WOOD FRAMING, GENERAL:

- A. Provide framing members of sizes and on spacings shown, and frame openings as shown, or if not shown, comply with recommendations of "Manual for House Framing" of National Forest Products Association (N.F.P.A.). Do not

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splice structural members between supports.

- B. Anchor and nail as shown, and to comply with "Recommended Nailing Schedule" of "Manual for House Framing" and National Design Specifications for Wood construction published by of N.F.P.A.
- C. Firestop concealed spaces of wood framed walls and partitions at each floor level and at the ceiling line of the top story. Where firestops are not automatically provided by the framing system used, use closely-fitted wood blocks of nominal 2" thick lumber of the same width as framing members.

6A3.04 INSTALLATION OF CONSTRUCTION PANELS:

- A. General: Comply with applicable recommendations contained in Form No. E 30D, "APA Design/Construction Guide - Residential & Commercial," for types of plywood products and applications indicated.
- B. Fastening Methods: Fasten panels as indicated below:
 - 1. Sheathing: Nail to framing.
 - 2. Plywood Backing Panels: Nail to supports.

6A3.05 GYPSUM WALL SHEATHING:

- A. General: Provide gypsum board sheathing where shown. Fasten to exterior face of stud framing for exterior walls. Use 1-1/2" long, 11 gage galvanized roofing nails with 3/8" head or 15 gage, divergent point galvanized staples 1/2" wide x 1-1/2" long. Keep perimeter fasteners 3/8" from edges and ends of board units. Fit boards tightly against each other and around openings.
- B. Install 4' x 8' or longer sheathing vertically with long edges parallel to and centered over studs. Provide solid wood blocking wherever end joints do not bear against framing sills or plates. Nail or staple to each support in accordance with manufacturer's recommended spacing, but space fasteners not more than 4" o.c. around perimeter at edge and end supports and 8" o.c. at intermediate supports.

END OF SECTION 6A

DIVISION 6

WOOD AND PLASTICS

SECTION 6D

FINISH CARPENTRY/ARCHITECTURAL WOODWORK

PART I GENERAL

6D1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the printed form of the Contract and Division 1 of these specifications entitled "General Requirements", which are hereby made a part of this Section of the Specifications.
- B. Equality of material, article, assembly or system, other than those named or described in this Section will be determined in accordance with the provisions of the Contract Form.

6D1.02 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

6D1.03 DESCRIPTION OF WORK:

- A. Extent of each type of architectural woodwork is indicated on drawings and in schedules.
- B. Types of architectural woodwork include the following:
 - 1. Interior standing and running trim, and rails, including:
 - Window stools.
 - 2. Architectural cabinets including:
 - Laminate clad counter w/ adjustable shelving.
 - Counter tops.
 - Closet and utility shelving.
- C. Wood doors are specified within Division 8.
- D. Manufactured cabinet and casework of stock design (bank,

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library, residential, classroom, laboratory, medical) is specified within Division 12.

- E. Woodwork items specified as furniture are specified within Division 12.

6D1.04 QUALITY ASSURANCE:

- A. AWI Quality Standard: Comply with applicable requirements of "Architectural Woodwork Quality Standards" published by the Architectural Woodwork Institute (AWI), except as otherwise indicated.

6D1.05 SUBMITTALS:

- A. Shop Drawings: Submit shop drawings showing location of each item, dimensioned plans and elevations, large scale details, attachment devices and other components.
- B. Samples: Submit the following samples:
 1. Plastic laminate, 8" x 10" for each type, color, pattern and surface finish.

6D1.06 DELIVERY, STORAGE AND HANDLING:

- A. Protect woodwork during transit, delivery, storage and handling to prevent damage, soiling and deterioration.
- B. Do not deliver woodwork, until painting, wet work, grinding and similar operations which could damage, soil or deteriorate woodwork have been completed in installation areas. If, due to unforeseen circumstances, woodwork must be stored in other than installation areas, store only in areas meeting requirements specified for installation areas.

6D1.07 PROJECT CONDITIONS:

- A. Conditioning: Woodwork Manufacturer and Installer shall advise Contractor of temperature and humidity requirements for woodwork installation and storage areas. Do not install woodwork until required temperature and relative humidity have been stabilized and will be maintained in installation areas.
- B. Maintain temperature and humidity in installation area as required to maintain moisture content of installed woodwork within a 1.0 percent tolerance of optimum moisture content, from date of installation through remainder of construction period. Require Woodwork

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Manufacturer to establish optimum moisture content and required temperature and humidity condition.

PART II - PRODUCTS

6D2.01 ACCEPTABLE MANUFACTURERS:

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering high pressure decorative laminates which may be incorporated in the work include; but are not limited to, the following:

1. Formica Corp.
2. Micarta Div., Westinghouse Electric Corp.
3. Nevamar Corp.
4. Ralph Wilson Plastics Co.

6D2.02 FABRICATION, GENERAL:

- A. Wood Moisture Content: Comply with requirements of referenced quality standard for moisture content of lumber at time of fabrication and for relative humidity conditions in the installation areas.
- B. Fabricate woodwork to dimensions, profiles, and details indicated with openings and mortises precut, where possible, to receive hardware and other items and work.
- C. Complete fabrication, assembly, finishing, hardware application, and other work before shipment to project site to maximum extent possible. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
- D. Pre-Cut Openings: Fabricate architectural woodwork with pre-cut openings, where possible, to receive hardware, appliances, plumbing fixtures, electrical work and similar items. Locate openings accurately and use templates or roughing-in diagrams for proper size and shape. Smooth edges of cutoffs and, where located in countertops and similar exposures seal edges of cutouts with a water-resistant coating.
- E. Measurements: Before proceeding with fabrication of woodwork required to be fitted to other construction, obtain field measurements and verify dimensions and shop drawing details as required for accurate fit.

6D2.03 STANDING AND RUNNING TRIM, AND RAILS:

A. Quality Standard: Comply with AWI Section 300.

6D2.04 ARCHITECTURAL CABINETS, LAMINATE CLAD:

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

B. Laminate Clad Cabinets: Comply with the following requirements:

1. Grade: Custom.

2. Type of Cabinet Construction: As indicated.

3. Laminate Cladding: High pressure decorative laminate complying with NEMA LD 3 and as follows:

4. Colors, Patterns and Finishes: As selected by Architect from laminate manufacturers' standard products in the following categories:

Solid colors.

Patterns.

5. Laminate Grade for Exposed Surfaces: Provide laminate cladding complying with the following requirements for type of surface and grade.

Horizontal Surfaces Other Than Tops: GP-50 (0.050" nominal thickness).

Postformed Surfaces: PF-42 (0.042" nominal thickness).

Vertical Surfaces: GP-50 (0.050" nominal thickness).

6. Semi-Exposed Surfaces: Provide surface material indicated below:

Match face.

6D2.05 CABINET HARDWARE AND ACCESSORY MATERIALS:

A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets, except for items which are specified in Division-8 section "Finish Hardware".

B. Adjustable shelf standards: Provide standards and supports of the type indicated which comply with

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ANSI/BHMA A156.9:

1. **Horizontal Slotted Type:** Mortise mounted, 5/8" wide x 3/16" high x length indicated, BHMA No. B84071, zinc-plated steel.
2. **Support Type:** Open shelf rest, BHMA No. B84091, zinc-plated steel.

C. **Counter Gate:** Provide the following:

1. 1 pair gravity pivot hinges, Stanley SP150, 3/4" thick.

6D2.06 **ARCHITECTURAL CABINET TOPS:**

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

1. **Laminate Cladding for Horizontal Surface:** High pressure decorative laminate complying with NEMA LD 3 and as follows:
2. **Colors, Patterns, and Finishes:** As selected from laminate manufacturer's standard products in the following categories:
 - Solid colors.
 - Patterns.
3. **Edge Treatment:** Same as laminate cladding on horizontal surface.

6D2.07 **CLOSET AND UTILITY SHELVING:**

A. **Quality Standard:** Comply with AWI Section 600.

B. **Shelving for Opaque Finish:** Comply with the following requirements:

1. **Grade:** Custom.
2. **Shelving Material:** Lumber, any closed-grain hardwood listed in referenced woodworking standard.

6D2.08 **CLOSET AND UTILITY SHELVING HARDWARE:**

A. **Adjustable Shelf Standards and Related Supports:** Provide standards and supports of type indicated which comply with ANSI/BHMA A156.9.

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1. **Vertical Slotted Type:** Vertical slots spaced 2" on center, 7/8" wide x 11/16" high x length indicated, BHMA No. B84102, zinc-plated steel.
 2. **Shelf Brackets:** Size required to support shelving widths indicated, BHMA No. B84112, zinc-plated steel.
- B. **Clothes Poles and Supports:** Provide steel pipe or tubing cut to lengths required, with standard wrought steel flanges (one with open top).
1. **Size:** 1.660" O.D., 0.14" wall thickness (1-1/2").
 2. **Finish:** Satin chrome plated, BHMA 652.
 3. **Center Brackets:** Combination shelf and closet pole support wrought steel with manufacturer's standard enamel finish; complying with ANSI A156.16, Type B84051.

6D2.09 FASTENERS AND ANCHORS:

- A. **Screws:** Select material, type, size and finish required for each use. Comply with FS FF-S-111 for applicable requirements.
1. For metal framing supports, provide screws as recommended by metal framing manufacturer.
- B. **Nails:** Select material, type, size and finish required for each use. Comply with FS FF-N-105 for applicable requirements.
- C. **Anchors:** Select material, type, size and finish required by each substrate for secure anchorage. Provide non-ferrous metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion-resistance. Provide toothed steel or lead expansion bolt devices for drilled-in-place anchors. Furnish inserts and anchors, as required, to be set into concrete or masonry work for subsequent woodwork anchorage.

PART III - EXECUTION

6D3.01 PREPARATION:

- A. Condition woodwork to average prevailing humidity conditions in installation areas prior to installing.

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- B. Deliver concrete inserts and similar anchoring devices to be built into substrates, well in advance of time substrates are to be built.
- C. Prior to installation of architectural woodwork, examine shop fabricated work for completion, and complete work as required, including back priming and removal of packing.

6D3.02 INSTALLATION:

- A. Install woodwork plumb, level, true and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8" in 8'-0" for plumb and level (including tops); and with no variations in flushness of adjoining surfaces.
- B. Scribe and cut work to fit adjoining work, and refinish cut surfaces or repair damaged finish at cuts.
- C. 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. Except where prefinished matching fasteners heads are required, use fine finishing nails for exposing nailing, countersunk and filled flush with woodwork, and matching final finish where transparent finish is indicated.
- D. Cabinets: Install without distortion so that doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete the installation of hardware and accessory items as indicated.
- E. Tops: Anchor securely to base units and other support systems as indicated.
- F. Wood Storage Shelving: Complete the assembly of units and install in the areas indicated, including hardware and accessories as indicated.

6D3.03 ADJUSTMENT, CLEANING, FINISHING AND PROTECTION:

- A. Repair damaged and defective woodwork where possible to eliminate defects functionally and visually; where not possible to repair replace woodwork. Adjust joinery for uniform appearance.

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- B. Clean, lubricate and adjust hardware.
- C. Refer to the Division 9 sections for final finishing of installed architectural woodwork.
- D. Provide final protection and maintain conditions, in a manner acceptable to Fabricator and Installer, which ensures architectural woodwork being without damage or deterioration at time of substantial completion.

END OF SECTION 6D