

SECTION 06100 - ROUGH CARPENTRY

PART 1 - GENERAL

RELATED DOCUMENTS:

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

SUMMARY:

Types of work in this section include rough carpentry for:

- Wood framing. (Most framing is metal stud framing)
- Wood grounds, nailers and blocking.
- Wood furring.
- Fire rated Wall/Floor/Roof Sheathing.
- Exterior Glas Mat Sheathing
- Fasteners and Anchorages

Finish carpentry is specified in another section within Division 6.

Prefabricated wood trusses are specified in another section within Division 6.

DEFINITIONS:

Rough carpentry includes carpentry work not specified as part of other sections and which is generally not exposed, except as otherwise indicated.

SUBMITTALS:

Product Data for the following products:

Wood Treatment Data: Submit chemical treatment manufacturer's instructions for handling, storing, installation and finishing of treated material.

Preservative Treatment: For each type specified, include certification by treating plant stating type of preservative solution and pressure process used, net amount of preservative retained and conformance with applicable standards.

For water-borne treatment, include statement that moisture content of treated materials was reduced to levels indicated prior to shipment to project site.

Metal Joist Hangers and Fasteners: Submit manufacturer's specifications and technical data for each hanger or fastener type required.

Research or evaluation reports of the model code organization acceptable to authorities having jurisdiction that evidence the following products' compliance with building code in effect for Project.

Engineered wood products.

QUALITY ASSURANCE

Single-Source Responsibility for Engineered Wood Products: Obtain each type of engineered wood product from one source and by a single manufacturer.

PRODUCT HANDLING:

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.

PROJECT CONDITIONS:

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 2 - PRODUCTS

LUMBER, GENERAL:

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.

Inspection Agencies: Inspection agencies and the abbreviations used to reference with lumber grades and species include the following:

- SPIB - Southern Pine Inspection Bureau.
- WWPA - Western Wood Products Association.

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 surfacing, and mill.

For exposed lumber apply grade stamps to ends or back of each piece, or omit grade stamps entirely and issue certificate of grade compliance from inspection agency in lieu of grade stamp.

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.

Provide dressed lumber, S4S, unless otherwise indicated.

Provide seasoned lumber with 19 percent maximum moisture content at time of dressing and shipment for sizes 2" or less in nominal thickness, unless otherwise indicated.

DIMENSION LUMBER:

For light framing (2" to 4" thick, 2" to 4" wide), provide the following grade and species:

Southern Yellow Pine

Select Structural
No. 2 grade

For structural light framing (2" to 4" thick, 4" and wider), provide the following grade and species:

Southern Yellow Pine
Select Structural
No. 2 grade

Fb (minimum extreme fiber stress in bending); 1200 psi.
E (minimum modulus of elasticity); 1,600,000 psi.

BOARDS:

Exposed Boards: Where boards will be exposed in the finished work, provide the following:

Moisture Content: 19 percent maximum, "S-DRY".

Painted finish typical: No. 1 Boards per SPIB rules, Select Merchantable Boards per WCLIB rules, or No. 2 Common Boards & Better per WWPA rules.

MISCELLANEOUS LUMBER:

Provide wood for support or attachment of other work including rooftop equipment curbs and support bases, cant strips, bucks, nailers, blocking, furring, grounds, stripping and similar members. Provide lumber of sizes indicated, worked into shapes shown, and as follows:

Moisture content: 19 percent maximum for lumber items not specified to receive wood preservative treatment.

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. 3 boards per SPIB rules.

CONSTRUCTION PANELS:

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.

Trademark: Factory-mark each construction panel with APA trademark evidencing compliance with grade requirements.

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.

Wall Sheathing: APA RATED EXP.-I SHEATHING - **"Fire Retardant Treated"**

Exposure Durability Classification: EXTERIOR.

Span Rating: As indicated on drawings but no less than 3/4".

Roof Sheathing: APA RATED EXP.-I SHEATHING. **"Fire Retardant Treated"**

Exposure Durability Classification: EXTERIOR.
Span Rating: As indicated on drawings but no less than 3/4”.

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 15/32”.

EXTERIOR SHEATHING AT EIFS FINISHES:

Exterior wall substrate for Exterior Insulated Finish System (EIFS).

Glass-Mat Gypsum Wall Sheathing: ASTM C 1177M

Product: Subject to compliance with requirements of EIFS installation, Provide “Dens Glass Gold by G-P Gypsum Corporation or GlasRock by Certainteed, or Equal.

Type and Thickness: Exterior 5/8” typical unless noted otherwise on drawings.

MISCELLANEOUS MATERIALS:

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, framing anchors and "saddles" of the size and type recommended by the manufacturer for each use including recommended nails. Hangers and anchors shall provide adequate hold against wind uplift. Hangers shall be of widths to accommodate framing members indicated.

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).

MDO underlayment:

Span Rating: As indicated on drawings but no less than 1/2”.

Building Paper: ASTM D 226, Type I; asphalt saturated felt, non-perforated, 15-lb. type.

WOOD TREATMENT BY PRESSURE PROCESS:

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 AWPB Standards C2 (Lumber) and C9 (Plywood) and of AWPB Standards listed below. Mark each treated item with the AWPB Quality Mark Requirements.

Pressure-treat above-ground items with water-borne preservatives to comply with AWPB LP-2. After treatment, kiln-dry lumber and plywood to a maximum moisture content, respectively, of 19 percent and 15 percent. Treat indicated items and the following:

Wood cants, nailers, curbs, equipment support bases, 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.

Wood framing members less than 18" above grade.

Wood floor plates installed over concrete slabs directly in contact with earth.

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 3 - EXECUTION

INSTALLATION, GENERAL:

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.

Set carpentry work to required levels and lines, with members plumb and true to line and cut and fitted.

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.

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.

WOOD GROUNDS, NAILERS, BLOCKING AND SLEEPERS:

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.

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.

WOOD FURRING:

Install plumb and level with closure strips at edges and openings. Shim with wood as required for tolerance of finished work.

Furring to Receive Plywood Paneling: Unless otherwise indicated, provide 1" x 3" furring at 16" o.c., vertically. Select furring for freedom from knots capable of producing bent-over nails and resulting damage to paneling.

Furring to Receive Gypsum Drywall: Unless otherwise indicated, provide 1" x 2" furring at 16" o.c., vertically.

WOOD FRAMING, GENERAL:

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 splice structural members between supports.

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 N.F.P.A.

STUD FRAMING: (NOTE: METAL FRAMING TYPICAL)

General: Provide stud framing of size and spacing indicated or, if not otherwise indicated, of the following sizes and spacings. Arrange studs so that wide face of stud is perpendicular to direction of wall or partition and narrow face is parallel. Provide single bottom plate and double top plates using 2" thick members with widths equaling that of studs; except single top plate may be used for non-load-bearing partitions. Nail or anchor plates to supporting construction.

For exterior walls provide 2" x 6" wood studs spaced 16" o.c. **(Unless Noted Otherwise on Drawings)**

For interior load bearing walls provide 2" x 6" wood studs spaced 16" o.c. **(Unless noted Otherwise on drawings)**

For interior partitions and walls provide 2" x 4" wood studs spaced 16" o.c. **(Unless Noted Otherwise on Drawings)**

NOTE: SPACE STUDS TO ALIGN DIRECTLY UNDER FRAMING (i.e. joists, trusses, beams, rafters, etc.) CARRIED BY STUDS.

Construct corners and intersections with not less than 3 studs. Provide miscellaneous blocking and framing as shown and as required for support of facing materials, fixtures, specialty items and trim.

Provide continuous horizontal blocking row at mid-height of single-story partitions over 8' high and at midpoint of multi-story partitions, using 2" thick members of same width as wall or partitions.

Frame openings with multiple studs and headers. Provide nailed header members of thickness equal to width of studs. Set headers on edge and support on jamb studs.

For non-bearing partitions, provide double-jamb studs and headers not less than 6" deep for openings 3' and less in width, and not less than 8" deep for wider openings.

For load-bearing partitions, provide double-jamb studs for openings 6' and less in width, and triple-jamb studs for wider openings. Provide headers of depth shown, or if not shown, provide as recommended by N.F.P.A. "Manual for House Framing".

Provide diagonal bracing in stud framing of exterior walls, except as otherwise indicated. Brace both walls at each external corner, full story height, at a 45 degree angle, using either a let-in 1 x 4 blocking.

END OF SECTION 06100

SECTION 06200 - FINISH CARPENTRY

PART 1 - GENERAL

RELATED DOCUMENTS:

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

DESCRIPTION OF WORK

Definition: Finish carpentry includes carpentry work which is exposed to view, is non-structural, and which is not specified as part of other sections.

Types of finish carpentry work in this section include:

- Exterior running and standing trim
- Interior standing and running trim.
- Exterior traditional round wall vent – 21/22” round
- Exterior siding at Steeple base.

Rough carpentry is specified in another Division-6 section.

Builders Hardware and wood doors are specified in Division-8 sections.

Architectural woodwork is specified in another Division-6 section.

QUALITY ASSURANCE:

Installer's Qualifications: Engage an experienced Installer who has completed finish carpentry similar in material, design, and extent to that indicated for this project and with a record of successful in-service performance.

Factory-mark each piece of lumber and plywood with type, grade, mill and grading agency identification; except omit marking from surfaces to receive transparent finish, and submit mill certificate that material has been inspected and graded in accordance with requirements if it cannot be marked on a concealed surface.

PRODUCT DELIVERY, STORAGE AND HANDLING:

Protect finish carpentry materials during transit, delivery, storage and handling to prevent damage, soiling and deterioration.

Do not deliver finish carpentry materials, 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, finish carpentry materials must be stored in other than installation areas, store only in areas meeting requirements specified for installation areas.

JOB CONDITIONS:

Maintain temperature and humidity in installation area as required to maintain moisture content of installed finish carpentry within a 2.0 percent tolerance of optimum moisture content, from date of installation through remainder of construction period. The fabricator of woodwork shall determine optimum moisture content and required temperature and humidity conditions.

PART 2 - PRODUCTS

WOOD PRODUCT QUALITY STANDARDS:

Lumber Standards: Comply with DOC PS 20, "American Softwood Lumber Standard" and with applicable grading rules of the respective grading and inspecting agency for the species and product indicated.

Plywood Standard: Comply with PS 1/ANSI A199.

Woodworking Standard: Where indicated for a specific product comply with specified provision of the following:

Architectural Woodwork Institute (AWI) "Quality Standards."

MATERIALS:

General:

Nominal sizes are indicated, except as shown by detailed dimensions. Provide dressed or worked and dressed lumber, as applicable, manufactured to the actual sizes as required by PS 20 or to actual sizes and pattern as shown, unless otherwise indicated.

Moisture Content of Softwood Lumber: Provide kiln-dried (KD) lumber having a moisture content from time of manufacture until time of installation not greater than values required by the applicable grading rules of the respective grading and inspecting agency for the species and product indicated.

Moisture Content of Hardwood Lumber: Provide kiln-dried (KD) lumber having a moisture content from time of manufacture until time of installation within the ranges required in the referenced woodworking standard.

Lumber for Transparent Finish (Stained or Clear) or Painted Finish: Use pieces made of solid lumber stock.

EXTERIOR FINISH CARPENTRY:

Standing and Running Trim: For trim in form of boards and worked products, provide lumber complying with the following requirements including those of the grading agency listed with species.

Standing and Running Trim: For trim in form of boards and worked products, provide materials complying with the following requirements:

Provide "HardiePlank" Lap Siding and trim boards by James Hardie with 30 year material guarantee. Other manufacturers must be pre approved before bidding.

Product Material: Prefinished Cement Fiberboard Siding and Trim boards

Color: "White"

Uses: Exterior Board Siding, Standing and Running Trim and Soffit Boards not otherwise specified.

Texture: Surfaced (smooth).

Finish: Field painted after installation. Typical finish unless noted otherwise on drawings.

Plywood for Painted or Clad Finish: Any softwood species, Exterior type, Medium Density Overlay (MDO/EXT-APA).

Thickness: 3/4" thick unless noted otherwise on drawings.

TRADITIONAL ROUND LOUVERED WALL VENT:

Provide one 21" to 22" round vent, 2-1/2 to 3" thick unit with brick mold surround edging that has fully functional louvers as drawn on the Building Elevation and the Building Section Detail. Material to be fabricated of prefinished, but paintable "white" fiberglass or wood fiber resin that is weather resistant, UV resistant, and rot resistant.

INTERIOR FINISH CARPENTRY:

Standing and Running Trim: Provide finished lumber and moldings complying with the following requirements including those of the grading agency listed in species.

Species: Clear Poplar or Birch when painted finish is specified

Grade: "B" Grade.

Uses: Any standing and running trim not otherwise specified. (Typically wood base.)

Texture: Surfaced (smooth for stained and painted finishes).

Finish: Painted finish typical unless otherwise indicated on drawings.

Miscellaneous Materials:

Fasteners and Anchorages: Provide nails, screws and other anchoring devices of the type, size, material and finish required for application indicated to provide secure attachment, concealed where possible, and complying with applicable Federal Specifications.

Where finish carpentry is exposed on exterior or in areas of high relative humidity, provide fasteners and anchorages with a hot-dipped zinc coating (ASTM A 153).

Inspect each piece of lumber and plywood or each unit of finish carpentry after drying; do not use twisted, warped, bowed or otherwise damaged or defective wood.

PART 3 - EXECUTION

PREPARATION:

Condition wood materials to average prevailing humidity conditions in installation areas prior to installing.

Backprime lumber for painted finish exposed on the exterior or, where indicated, to moisture and high relative humidities on the interior. Comply with requirements of section on painting within Division 9 for primers and their application.

INSTALLATION:

Discard units of material which are unsound, warped, bowed, twisted, improperly treated, not adequately seasoned or too small to fabricate work with minimum of joints or optimum jointing arrangements, or which are of defective manufacturer with respect to surfaces, sizes or patterns.

Install the work plumb, level, true and straight with no distortions. Shim as required using concealed shims.

Scribe and cut work to fit adjoining work, and refinish cut surfaces or repair damaged finish at cuts.

Install HardiePlank Exterior siding and trim as recommended in their Technical Bulletin #17 that includes "blind nailing" installation with corrosion resistant fasteners (galvanized or stainless steel) approved by ICC-ES-2290.

Touch up all exposed nail heads with matching paint color.

Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to the greatest extent possible. Stagger joints in adjacent and related members. Cope at returns, miter at corners, to produce tight fitting joints with full surface contact throughout length of joint. Use scarf joints for end-to-end joints.

Make exterior joints water-resistant by careful fitting.

Apply flat grain lumber with bark side exposed to weather.

Anchor finish carpentry work to anchorage devices 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 nail for exposed nailings, countersunk and filled flush with finished surface, and matching final finish where transparent is indicated.

ADJUSTMENT, CLEANING, FINISHING AND PROTECTION:

Repair damaged and defective finish carpentry work wherever possible to eliminate defects functionally and visually; where not possible to repair properly, replace woodwork. Adjust joinery for uniform appearance.

Clean finish carpentry work on exposed and semi-exposed surfaces. Touch-up shop-applied finishes to restore damaged or soiled areas.

Refer to Division 9 sections for final finishing of installed finish carpentry work.

Protection: Installer of finish carpentry work shall advise Contractor of final protection and maintained conditions necessary to ensure that work will be without damage or deterioration at time of acceptance.

END OF SECTION 06200