

DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES
Section 06 10 00 – Rough Carpentry

PART 1 - GENERAL

1.1 WORK INCLUDES

- A. Base Bid: Unless noted otherwise, the General Prime Contractor shall provide all labor and materials for the complete installation of work as specified in this section.
 - 1. Carpentry required to complete the work as indicated and as specified.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.3 RELATED WORK

- A. Division 06 Section “Plastic-Laminate-faced Architectural Cabinets.”
- B. Division 09 Section “Gypsum Board.”
- C. Division 12 Section “Simulated Stone Countertops.”

1.4 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product.
- 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 ALSC Board of Review.
- C. Evaluation Reports: For the following, from ICC-ES:
 - 1. Wood-preservative-treated wood.
 - 2. Fire-retardant-treated wood.
 - 3. Engineered wood products.
 - 4. Shear panels.
 - 5. Power-driven fasteners.
 - 6. Post-installed anchors.
 - 7. Metal framing anchors.

1.5 PRODUCT HANDLING

- A. Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Provide for air circulation within and around stacks and under temporary coverings including polyethylene and similar material.

1.6 PROJECT CONDITIONS:

- A. Fit carpentry work to other work. Scribe and cope as required for accurate fit. Correlate location of nailers and similar supports to allow attachment of other work.

PART 2 - PRODUCTS

2.1 LUMBER

- A. Lumber Standards : DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
- B. Factory mark each piece of lumber with grade stamp of grading agency.
- C. Dress lumber, S4S, unless otherwise indicated.
- D. Maximum Moisture Content of Lumber: Provide seasoned lumber with 19% maximum moisture content at time of dressing and shipment for sizes 2” or less in nominal thickness unless otherwise indicated.
- E. Dimension (Framing) Lumber (Nominal 2” to 4” Thick): Construction grade or No. 1 grade according to size and species (unless drawings require better properties).
- F. Boards (1” Thick and Less): 15% maximum moisture content, “MC-15”, or KD-15 Southern Pine, No. 2 Boards per SPIB, or Douglas Fir Construction Boards per WCLIB or WWPA rules.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment: Comply with applicable requirements of WPA Standards C2 Lumber and C9 Plywood and of AWPB Standards listed below. Mark each treated item with the AWPB Quality Marks Requirements.
- B. Pressure-treat with ACQ (arsenic and chromium-free) preservatives to a minimum retention of 0.25 PCF. After treatment, kiln-dry lumber and plywood to a maximum moisture content, respectively, of 19% and 15%. Treat the following:
 - 1. All wood items outside building enclosure.

2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. Pressure impregnate lumber and plywood with fire-retardant chemicals to comply with AWPA C20 and C27, respectively; identify lumber with appropriate classification marking of Underwriters Laboratories, Inc., U.S. Testing, Timber Products Inspection, or other testing and inspecting agency acceptable to authorities having jurisdiction.
 - 1. Use where indicated in the drawings.

2.4 PRESERVATIVE-TREATED PLYWOOD

- A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC3b for exterior construction not in contact with ground.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.
- C. Application: Treat all plywood unless otherwise indicated.

2.5 WALL SHEATHING

- A. Plywood Sheathing: DOC PS 1 Exposure 1 sheathing.
 - 1. Span Rating: Not less than 24/0.
 - 2. Nominal Thickness: Not less than 1/2 inch.
- B. See Division 09 Section "Gypsum Board" for exterior gypsum sheathing.

2.6 MISCELLANEOUS LUMBER

- A. All concealed blocking shall be fire-retardant-treated lumber.
- B. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 - 1. Blocking.
 - 2. Nailers.
 - 3. Rooftop equipment bases and support curbs.
 - 4. Cants.
 - 5. Furring.
 - 6. Grounds.
- C. Dimension Lumber Items: Construction or No. 2 grade lumber of any of the following species.
 - 1. Hem-fir (north); NLGA.
 - 2. Mixed southern pine; SPIB.
 - 3. Spruce-pine-fir; NLGA.
 - 4. Hem-fir; WCLIB or WWPA.

5. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
 6. Western woods; WCLIB or WWPA.
 7. Northern species; NLGA.
 8. Eastern softwoods; NeLMA.
- D. Concealed Boards: 19 percent maximum moisture content and any of the following species and grades:
1. Mixed southern pine or southern pine; No. 2 grade; SPIB.
 2. Hem-fir or hem-fir (north), Construction or No. 2 Common grade; NLGA, WCLIB, or WWPA.
 3. Spruce-pine-fir (south) or spruce-pine-fir, Construction or No. 2 Common grade; NeLMA, NLGA, WCLIB, or WWPA.
 4. Eastern softwoods; No. 2 Common grade; NeLMA.
 5. Northern species; No. 2 Common grade; NLGA.
 6. Western woods; Construction or No. 2 Common grade; WCLIB or WWPA.
- E. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- F. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.
- G. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling

2.7 PLYWOOD BACKING PANELS

- A. Equipment Backing Panels: DOC PS 1, fire-retardant treated, in thickness indicated or, if not indicated, not less than 5/8" nominal thickness.

2.8 FASTENERS

- A. General: Fasteners shall be of size and type indicated and shall comply with requirements specified in this article for material and manufacture.
1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners of Type 304 stainless steel.

2.9 METAL FRAMING ANCHORS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
1. Cleveland Steel Specialty Co.
 2. KC Metals Products, Inc.
 3. Phoenix Metal Products, Inc.
 4. Simpson Strong-Tie Co., Inc.

5. USP Structural Connectors.

- B. Allowable design loads, as published by manufacturer, shall meet or exceed those of products of manufacturers listed. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency. Framing anchors shall be punched for fasteners adequate to withstand same loads as framing anchors.
- C. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 coating designation.
 - 1. Use for interior locations unless otherwise indicated.
- D. Hot-Dip, Heavy-Galvanized Steel Sheet: ASTM A 653/A 653M; structural steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 coating designation; and not less than 0.036 inch thick.
 - 1. Use for wood-preserved-treated lumber and where indicated.

2.10 MISCELLANEOUS MATERIALS

- A. Sill-Sealer Gaskets: Glass-fiber-resilient insulation, fabricated in strip form, for use as a sill sealer; 1-inch nominal thickness, compressible to 1/32 inch; selected from manufacturer's standard widths to suit width of sill members indicated.
- B. Sill-Sealer Gaskets: Closed-cell neoprene foam, 1/4 inch thick, selected from manufacturer's standard widths to suit width of sill members indicated.
- C. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber or rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch.
- D. Adhesives for Gluing Furring to Concrete or Masonry: Formulation complying with ASTM D 3498 that is approved for use indicated by adhesive manufacturer.
 - 1. Adhesives shall have a VOC content of 70 g/L or less.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Do not use lumber of material which are unsound, warped, bowed, twisted, improperly treated, not adequately seasoned, or too small to fabricate the Work with a minimum of joints or the optimum jointing arrangement.

- C. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Locate nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- D. Fit rough carpentry accurately to other construction. Scribe and cope as required for accurate fit.
- E. Do not splice structural members between supports unless otherwise indicated.
- F. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- G. Apply minimum 1/16" coating of bituminous paint to the contact surface of steel, galvanized steel, and aluminum to ensure separation from contact with preservative treated lumber and wood products. Comply with AWWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
- H. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- I. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated and as required by recognized standards.
- J. Provide washers under bolt heads and nuts in contact with wood.
- K. 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.
- L. Do not drive threaded friction-type fasteners; turn in place. Tighten bolts and lag screws at installation and retighten as required for tight connections prior to closing in or at completion of Work.
- M. Anchor and nail as shown or, if not shown, to comply with the Recommended Nailing Schedule and other recommendations of NFPA.
- N. Good Grounds, Nailers, and Blocking:
 - 1. Provide wherever shown and where required for screeding or attachment of other Work. Form to shapes and cut as required for true line and level of Work to be attached or screed.
 - 2. Provide solid wood blocking built into gypsum drywall partitions and walls where shelving, cabinets, toilet partitions, accessories, and similar are secured.
 - 3. Coordinate location with other Work. Refer to Shop Drawings of such Work, if any.
 - 4. Attach to substrates securely with anchor bolts or other attachment devices as shown and as required to support applied loading.
 - 5. Countersink bolts and nuts flush with surfaces, unless otherwise indicated.
 - 6. Build into masonry as Work progresses, cutting to fit masonry unit size involved.
 - 7. Anchor to formwork before concrete placement.

3.2 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.
- C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches (38 mm) wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

3.3 PROTECTION

- A. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet enough that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 06 10 00

