

SECTION 06100 - ROUGH CARPENTRY**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Rooftop equipment bases and support curbs.
 - 2. Wood blocking, cants, and nailers.
 - 3. Roof Sheathing.
 - 4. Preservative-treated wood.
 - 5. Fire-retardant-treated concealed wood and structural panels.

1.3 DEFINITIONS

- A. Rough Carpentry: Carpentry work not specified in other Sections and not exposed, unless otherwise indicated.
- B. Lumber grading agencies, and the abbreviations used to reference them, include the following:
 - 1. NELMA - Northeastern Lumber Manufacturers Association.
 - 2. NLGA - National Lumber Grades Authority.
 - 3. RIS - Redwood Inspection Service.
 - 4. SPIB - Southern Pine Inspection Bureau.
 - 5. WCLIB - West Coast Lumber Inspection Bureau.
 - 6. WWPA - Western Wood Products Association.

1.4 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used, net amount of preservative retained, and chemical treatment manufacturer's written instructions for handling, storing, installing, and finishing treated material.
 - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials, both before and after exposure to elevated temperatures when tested according to ASTM D5516 and ASTM D5664.
- 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. Preservative-treated wood.
 - 2. Fire-retardant-treated wood and structural panels.

PART 2 - PRODUCTS**2.1 WOOD-PRESERVATIVE-TREATED MATERIALS**

- A. Preservative Treatment by Pressure Process: AWPAC2 (lumber) except that lumber that is not in contact with the ground and is continuously protected from liquid water may be treated according to AWPAC31 with inorganic boron (SBX).
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and one of the following:
 - a. Chromated copper arsenate (CCA).
- B. Kiln-dry material after treatment to a maximum moisture content of 19 percent for lumber Do not use material that is warped or does not comply with requirements for untreated material.
- C. Mark each treated item with the treatment quality mark of an inspection agency approved by the American Lumber Standards Committee Board of Review.
- D. Application: Treat all rough carpentry, unless otherwise indicated.
 - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 - 2. Wood floor plates that are installed over concrete slabs directly in contact with earth.

2.2 FIRE-RETARDANT-TREATED MATERIALS

- A. General: Where fire-retardant-treated materials are indicated for all concealed wood elements including roof sheathing, provide materials that comply with performance requirements in AWPAC20. Identify fire-retardant-treated wood with appropriate classification marking of UL, U.S. Testing, Timber Products Inspection, or another testing and inspecting agency acceptable to authorities having jurisdiction.
 - 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 D5664, for lumber
 - 2. Use treatment that does not promote corrosion of metal fasteners.
 - 3. Use Exterior type for exterior locations and where indicated.
- B. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not bleed through, contain colorants, or otherwise adversely affect finishes.
- C. Fire-retardant-treated structural panels - including all plywood roof sheathing:
 - 1. Product: FirePro as manufactured by Licensee of Osmose, Inc; Wood Preserving Group or approved equitable by the designer.
 - 2. Surface Burning Characteristics: Flame spread index and smoke developed index of 25 or less, when tested in extended 30 minute tunnel test in accordance with ASTM E 84, NFPA 255 and UL 723; Underwriters Laboratories listed with each piece of treated material bearing UL FR-S classification stamp.
 - 3. Comply with AWPA C27 Interior Type A High Temperature (HT) Fire Retardant when tested at 92 percent relative humidity, except that listing of chemical formulation in AWPA P17 is not required
 - 4. Kiln dried after treatment to maximum 15 percent moisture content.
 - 5. Species: Douglas Fir.
 - 6. Corrosivity: Evaluated as satisfactory for use with fastening materials and cold-formed metal framing specified, in accordance with AWPA E12.
 - 7. Fasteners: Either aluminum 2024-T3 alloy, steel SAE 1010, hot-dipped galvanized steel, stainless steel, copper, or red brass.

- a. Where attaching to metal framing, use plated or treated self-drilling screw fasteners as required and recommended by sheathing manufacturer and approved by Designer.

2.3 MISCELLANEOUS LUMBER

- A. General: Provide lumber for support or attachment of other construction, including the following:
 1. Rooftop equipment bases and support curbs.
 2. Blocking.
 3. Cants.
 4. Nailers.
 5. Grounds.
- B. For items of dimension lumber size, provide Construction, Stud, or No.2 grade lumber with 15 percent maximum moisture content and any of the following species:
 1. Mixed southern pine; SPIB.
 2. In concealed applications within the building interior, all wood blocking and supplemental framing shall be Fire Retardant Treated to conform to BOCA Type 2C - noncombustible construction.

2.4 ROOF SHEATHING

- A. Roof Sheathing: Square edge, Structural I Grade, douglas-fir structural plywood panels. Fire retardant treated - No substitutions..
 1. Span Rating: Not less than 32/16 - inch.
 2. Thickness: Not less than 5/8 - inch.
 3. Fire-retardant-treated structural panels.

2.5 PLYWOOD BACKING PANELS

- A. Telephone and Electrical Equipment Backing Panels: DOCPS1, Exposure1, C-D Plugged, fire-retardant treated, in thickness indicated or, if not indicated, not less than 1/2 inch thick.

2.6 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 hot-dip zinc coating complying with ASTM A153/A153M.
- B. Nails, Brads, and Staples: ASTM F1667.
- C. Power-Driven Fasteners: CABONER-272.
- D. Wood Screws: ASME B18.6.1.
- E. Screws for Fastening to Cold-Formed Metal Framing: ASTM C954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.
- F. Lag Bolts: ASME B18.2.1. .
- G. Bolts: Steel bolts complying with ASTM A307, Grade A ; with ASTM A563 hex nuts and, where indicated, flat washers.
- H. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when

installed in concrete as determined by testing per ASTM E488 conducted by a qualified independent testing and inspecting agency.

1. Material: Carbon-steel components, zinc plated to comply with ASTM B633, Class Fe/Zn5.
 2. Material: Stainless steel with bolts and nuts complying with ASTM F593 and ASTM F594, Alloy Group 1 or 2.
- I. Clips: Provide extruded aluminum H-shaped plywood edge clips for mid-span deflection support and installation spacing as recommended by panel manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- 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 furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- B. Do not use materials with defects that impair quality of rough carpentry or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- C. Apply field treatment complying with AWPAM4 to cut surfaces of preservative-treated lumber and plywood.
- D. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; predrill as required.

3.2 ROOF SHEATHING INSTALLATION

- A. Comply with AWPAM4 installation guidelines and requirements for nail type, nailing intervals and installation methods, edge gap, roofing underlayment and accessories necessary for a structural and warranted installation.
- B. Cover installed sheathing with protective coverings or roofing system before inclement weather, to greatest extent possible, to limit sheathing exposure to moisture.

3.3 WOOD GROUND, BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for screeding or 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. Build anchor bolts into masonry during installation of masonry work. Where possible, secure anchor bolts to formwork before concrete placement.

END OF SECTION 06100