
SECTION 06100 - ROUGH CARPENTRY

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Wood framing, blocking, nailers, furring, grounds and screeds.
2. Reinforcement at bracket, fixture and cabinet locations, and additional furring, nailing, and bolting necessary to allow for the installation of concealed work.
3. Wood preservative treatment.
4. Fire retardant plywood.
5. Rough hardware.
6. Coordination and cooperation with other trades to fit and conform to requirements for anchoring and installation of their equipment, using guides and templates furnished by the trade involved.
7. Safety protection (temporary rails, etc.).

B. Related Sections:

1. Section 03100 – Concrete Formwork.
2. Section 05500 – Miscellaneous Metals
2. Section 07533 – Single Ply Membrane Roofing
3. Section 07620 – Flashing and Sheet Metal

1.02 REFERENCE STANDARDS

A. Except as otherwise specified herein or shown on the Drawings, comply with the latest editions of all applicable codes and regulations including the applicable requirements of the following Reference Standards and Codes which are hereby made a part of this Section, as they relate to the rough carpentry.

1. NBS: PS1 for Construction and Industrial Plywood.
2. NBS: PS20 American Softwood Lumber Standard.
3. SPIB: Grading Rules.
4. WWPA: Grading Rules.
5. ASTM: D2898 Accelerated Weathering of Fire-Retardant Treated Wood for Fire Testing.
6. AWWA: CI All Timber Products –Preservative Treatment by Pressure Processes.
7. AWWA: C20 Structural Lumber – Fire Retardant Treatment by Pressure Processes.
8. AWWA: C27 Plywood – Fire Retardant Treatment by Pressure Processes.
9. AWWA: M2 Standard for Inspection of Treated Timber Products.
10. BOCA Building Code, latest Edition.

11. The Occupational Health and Safety Administration (OSHA) Code of Federal Regulations (CFR), Volume 29.

103 QUALITY ASSURANCE

A. Requirements of regulatory agencies:

1. In addition to complying with other legal requirements, comply with:
 - a. UL procedures for fire rated construction.
 - b. Fire retardant wood: In accord with UL FRS Fire Hazard Classification and local codes.

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

1. RIS - Redwood Inspection Service.
2. NLGA - National Lumber Grades Authority (Canadian).
3. SPIB - Southern Pine Inspection Bureau.

C. Grade Stamps: Factory mark each piece of material 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.

D. Grading rules:

1. Identify all lumber and plywood with grade mark and inspecting agency symbol showing mill name or number, lumber grade, species or species grouping or combination designation, rules under which graded, where applicable and condition of seasoning at time of manufacture.
2. Grading rules standards:
 - a. Grading Rules and Species: Except as modified in this Section, 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. Lumber Standards: SPIB Grading Rules, 1977 Edition, or WWPA Grading Rules.
 - c. Plywood 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 Association (APA), Performance Standard and Policies for Structural-Use Panels, Form No. E445.

1.04 SUBMITTALS

- A. Material Certificates: Where dimensional lumber is provided to comply with minimum allowable unit stresses, submit listing of species and grade selected for each use, and submit evidence of compliance with specified requirements. Compliance may be in form of a signed copy of applicable portion of lumber producer's grading rules showing design values for selected species and grade.
- B. Wood Treatment Data: Chemical treatment manufacturer's instructions for handling, storing, installation and finishing of treated material.
 - 1. 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.
 - 2. For waterborne treatment include statement that moisture content of treated materials was reduced to levels indicated prior to shipment to project site.
 - 3. Fire Retardant Treatment: Include certification by treating plant that treated material complies with specified standard and other requirements.

1.05 PRODUCT HANDLING

- A. Secure delivery of lumber at earliest possible date to allow lumber to acclimate to project environment.
- B. Stack lumber using blocking to allow free circulation of air. Protect lumber at all times from direct wetting and moisture.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Manufacture all lumber and plywood in accord with specified grading rules. 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.
- B. Random length lumber:
 - 1. Provide lumber 2" x 4" and wider, No. 2 Dense or Better, kiln dried, 15% moisture content, Fb 1800 or better, Southern Yellow Pine, or equivalent Douglas Fir unless otherwise indicated.
 - 2. Provide seasoned lumber with 19% maximum moisture content at time of dressing and shipment for sizes 2 inches or less in minimal thickness, unless otherwise indicated.
 - 3. Provide dressed lumber, S4S, unless otherwise indicated.
- C. Construction Panels:

1. Concealed APA Performance-Rated Panels: APA Performance Rated Panels complying with requirements indicated for grade designation, span rating, exposure durability classification, edge detail (where applicable) and thickness.
 2. Roof Sheathing: APA rated sheathing, structural CDX plywood.
 - a. Exposure Durability Classification: Exterior.
 - b. Span Rating: As required to suit rafter spacing indicated.
 - c. Thickness: 5/8 inch.
 - d. Deck Attachment: In accordance with applicable Building Code but in no case shall it be less than 8d annular ring shank nails spaced 6 inches on center around the perimeter of the plywood panels and 12 inches in the field of the plywood panels with each plywood panel spanning and attached to a minimum of three rafters or trusses.
 3. 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 3/4-inch.
- D. Nails, screws, bolts, nuts, washers:
1. All locations: Provide fasteners and anchorages hot dip galvanized in accord with ASTM A153.
 2. Sizes, type, material and finish as indicated and recommended by applicable standards, complying with Federal Specifications for nails, staples, screws, bolts, nuts, washers and anchoring devices.

2.02 FRAMING AND GENERAL USE LUMBER

- A. Kiln dried and well seasoned, with moisture content not to exceed 19%, surfaced four sides, No. 2 Common Southern Pine or Construction Grade Douglas Fir.
1. For locations in contact with concrete or masonry and where exposed to the weather, use pressure treated lumber conforming to American Wood Preservers Bureau Industry Standards LP-2, LP-3 or LP-4, kiln dried after treatment to the moisture content specified above.
 2. When treatment is classified in terms of retention level, use lumber with minimum 0.25 pcf.

2.03 PLYWOOD

- A. Standard APA interior grade, exposure 1, veneer group 1 or 2, for all permanent installations. Thickness and face veneer grades shown on the drawings. When not shown, provide C-C Plugged in concealed locations, B grade where exposed, minimum thickness 5/8".

- B. Fire Retardant Plywood: 3/4" CDX Fire Retardant Plywood conforming to the minimum standards of The American Plywood Association.

2.04 ROUGH HARDWARE

- A. Galvanized for exterior use and prime coated for interior use, except that truss and rafter anchors, seats, and hangers shall be galvanized.
 - 1. Strap Anchors: Not less than 1" x 1/8" in cross section.
 - 2. Seats and Hangers: Not less than 18 gauge.

2.05 NAILS

- A. Galvanized for permanent exterior use. Common wire nails for other temporary and interior use.

2.06 WOOD TREATMENT

- A. Wood Preservative For On-Site Use: Pentachlorophenol or equal, 5% solution in light petroleum vehicle, water repellent type, colored for framing lumber, clear for exposed framing and millwork, or any other preservative that has been proved equal or better in tests performed by a technical laboratory, subject to approval by the Resident.
- B. Preservative Treatment: 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.
 - 1. Pressure treat above ground items with waterborne 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:
 - a. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers and waterproofing.
 - b. Wood sills, sleepers, blocking, furring, stripping and similar concealed members in contact with masonry or concrete.
 - c. Wood framing members less than 18 in. above grade.
 - d. Wood floor plates installed over concrete slabs directly in contact with earth.
 - 2. Pressure treat the following with waterborne preservatives for ground contact use complying with AWPB LP-22:
 - a. Wood members in contact with ground.

- b. Wood members in contact with fresh water.
- 3. Complete fabrication of treated items prior to treatment. 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.

2.07 FIRE RETARDANT TREATMENT (FRT)

- A. Pressure treat all wood and plywood used for work of this Section. Provide treatment in accord with the following:
 - 1. Lumber: AWPA Standard C1 and C20, Exterior Grade.
 - 2. Plywood: AWPA Standard C1 and C27, Exterior Grade.
- B. Flame spread (treated materials): 25 when tested in accord with ASTM E84. The UL designation FR-S will be accepted in lieu of numerical ratings.
- C. Provide Exterior Type for all FRT wood. There shall be no change in the fire hazard classification following exposure to the standard rain test – ASTM D2898.
- D. Following treatment, dry lumber to moisture content of 19% or less, and dry plywood to 15% or less. Edge seal plywood at factory.
- E. Acceptable applicators:
 - 1. Koppers Co.
 - 2. J.H. Baxter.
 - 3. Dixie Wood Preserving Co.
 - 4. Hoover Universal.
 - 5. Florida Wood Treaters, Inc.

PART 3 EXECUTION

3.01 FRAMING

- A. Blocking: Bring nailers and grounds to exact finish of plaster or the back of other materials and secure firmly by approved means.
- B. Provide wood or metal bracing and nailer boards for equipment to be mounted against work under this section, whether concealed or exposed, to ensure a stable, rigid, non-sagging installation. Use minimum 1" nominal thickness lumber, but use 2" stock where required. Secure and brace wood members to metal construction if required.
- C. Erect work square, plumb and true, securely anchored in place in the correct position and

alignment, and as indicated on the Drawings.

- D. 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.
- E. Securely attach carpentry work to substrate by anchoring and fastening as shown and as required by recognized standards. Do not splice structural members between supports.
- F. Anchor and nail as shown, and to comply with N.F.P.A. National Design Specifications for Wood Construction.
- G. Firestop concealed spaces of wood framed walls and partitions.

3.02 WOOD PRESERVATIVE FOR ROUGH CARPENTRY

- A. Use pressure treated lumber on woodwork exposed to weather, in contact with concrete or masonry, and where noted on drawings.
- B. In locations where lumber may get wet for any reason, including dew and condensation, treat all cuts with field applied preservative by dipping or flood brushing until the cut surface is completely saturated.

3.03 BACKING PLATES

- A. Provide solid backing and blocking behind plaster and mortar-set ceramic tile wall surfaces for the attachment of fixtures, appliances, furniture, cabinets, and other items, including items indicated on Drawings as N.I.C. or Owner Furnished.
 - 1. Attach securely to metal studs.

3.04 CONSTRUCTION PANELS

- A. Comply with applicable recommendations contained in Form No. E 30F, APA Design/Construction Guide - Residential & Commercial for types of construction panels and applications indicated. Nail securely to framing.

END OF SECTION