

## **SECTION 06 10 00 - ROUGH CARPENTRY**

### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

- A. Work Included: Provide products in accordance with the Contract Documents. The Contract Documents are as defined in the "Agreement". The "General Conditions " shall apply to all work under the Contract. The Work of this Section shall include but not be limited to the following:
  - 1. Wood grounds, nailing strips, blocking, furring, nailers, and framing.
  - 2. Preservative treatment for wood.
  - 3. Fire-retardant treatment for wood.
  - 4. Miscellaneous lumber.
  - 5. Plywood construction and backing panels.
  - 6. Plywood subfloor and underlayment where required.
  - 7. Rough hardware, including nails, screws, anchors, brackets, braces, bolts, nuts, fittings, and other devices required for the proper fitting, connecting, and erecting of the Work.
- B. Related Sections
  - 3. Section 09 21 00 - Gypsum Drywall Systems.
  - 4. Section 09 90 00 - Painting.

#### **1.02 DEFINITIONS**

- A. Rough carpentry includes carpentry work not specified as part of other Sections and generally not exposed, unless otherwise specified.

#### **1.03 SUBMITTALS**

- A. Product Data: Submit manufacturer's specifications and installation instructions for manufactured materials.
  - 1. Construction adhesives.
  - 2. Construction panels.
  - 3. Hardware and fasteners.
- B. Material certificates for dimensional lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use as well as design values approved by the Board of Review of American Lumber Standards Committee.

- C. Wood treatment data as follows including chemical treatment manufacturer's instructions for handling, storing, installation, and finishing of treated material:
  - 1. For each type of preservative treated wood product include certification by treating plant stating type of preservative solution and pressure process used, net amount of preservative retained, and compliance with applicable standards.
  - 2. For water-borne treated products include statement that moisture content of treated materials was reduced to levels indicated prior to shipment to project site.
  - 3. For fire-retardant-treated wood products include certification by treating plant that treated material complies with specified standard and other requirements.
  - 4. Material test reports from qualified independent testing laboratory indicating and interpreting test results relative to compliance of fire-retardant-treated wood products with requirements indicated.
  - 5. Warranty of chemical treatment manufacturer for each type of treatment.
  - 6. Submit product specifications and material data (MSD) safety sheets for each product.
- D. Research reports or evaluation reports of the model code organization acceptable to authorities having jurisdiction evidencing compliance of the following wood products with specified requirements and building code in effect for Project.
  - 1. Power driven fasteners.
  - 2. Fire-retardant-treated wood.

#### 1.04 QUALITY ASSURANCE

- A. Single-Source Responsibility for Fire Retardant Treated Wood: Obtain each type of fire-retardant-treated wood products from one source for both treatment and fire-retardant formulation.
- B. Mill and Producers Mark: Each piece of lumber and plywood shall be grade-stamped indicating type, grade, mill, and grading agency certified by the Board of Review of the American Lumber Standards Committee. Mark shall appear on unfinished surface, or ends of pieces with finished surfaces.
  - 1. Pressure Preservative Treated Material: Accredited agency quality mark on each piece of wood including treatment.
  - 2. Fire-Retardant Treated Material: Accredited testing agency mark on each piece of wood indicating compliance with the fire hazard classification.
- C. Standards: Comply with the following unless otherwise specified or indicated on the Drawings:
  - 1. Lumber: American Softwood Lumber Standard PS 20 by the U.S. Department of Commerce. Comply with applicable provisions by each indicated use.
  - 2. Plywood: Product Standard PS 1 for Softwood Plywood, Construction and Industrial by the U.S. Department of Commerce.

3. Plywood Installation: APA Design/Construction Guide, by the American Plywood Association (APA), except as indicated otherwise.
4. Grading Rules: Refer to the following organizations for applicable wood species grading requirements:
  - a. Douglas Fir, Hem-Fir, Idaho White Pine, and other Western Woods: Western Wood Products Association (WWPA) or West Coast Lumber Inspection Bureau (WCLIB).
  - b. Southern Pine: Southern Pine Inspection Bureau (SPIB).
5. Preservative Treatment: American Wood Preservers' Association (AWPA) and American Wood Preservers Bureau (AWPB) Standards, quality control methods, and inspection requirements.
6. Fire-Retardant Treatment: American Wood Preservers' Association (AWPA) Standards. Comply with local code requirements.

#### 1.05 DELIVERY, STORAGE, AND HANDLING

- A. 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.
- B. For lumber and plywood pressure treated with waterborne chemicals, place spacers between each bundle to provide air circulation.

## PART 2 - PRODUCTS

#### 2.01 LUMBER, GENERAL

- A. Lumber Standards: Furnish lumber manufactured 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 them with lumber grades and species include the following:

SPIB - Southern Pine Inspection Bureau.  
WCLIB - West Coast Lumber Inspection Bureau.  
WWPA - Western Wood Products Association.
- C. Grade Stamps: Provide lumber with each piece factory-marked 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. 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 dressed lumber, S4S, unless otherwise indicated.
2. Provide seasoned lumber with 19 percent maximum moisture content at time of dressing and shipment for sizes 2 inches or less in nominal thickness, unless otherwise indicated.

## 2.02 CONSTRUCTION PANELS, GENERAL

- A. Construction Panel Standards: Comply with PS 1 "U.S. Product Standard for Construction and Industrial Plywood" for plywood construction panels and, for products not manufactured under PS 1 provisions, with APA PRP-108.
- B. Trademark: Furnish construction panels that are each factory-marked with APA trademark evidencing compliance with grade requirements.
- C. General: Where construction panels are indicated for the following concealed types of applications, provide APA Performance-Rated Panels complying with requirements designated under each application for grade designation, span rating, exposure durability classification, edge detail (where applicable), and thickness.

## 2.03 INTERIOR SUBFLOORING AND UNDERLAYMENT

- A. General: Where structural-use panels are indicated for the following concealed types of applications, provide APA-performance-rated panels complying with requirements designated under each application for grade, span rating, exposure durability classification, and edge detail (where applicable). Provide fire resistant material unless otherwise indicated.
1. Thickness: Provide panels meeting requirements specified but not less than thickness indicated.
  2. Span Ratings: Provide panels with span ratings required to meet "Code Plus" provisions of APA Form No. E30, "APA Design/Construction Guide: Residential & Commercial."
  3. Combination Subfloor-Underlayment: APA-rated Sturd-I-Floor.
  4. Exposure Durability Classification: Exterior.
  5. Provide 250Lbs per sq. ft. for 24" span Min. or as indicated.
- B. Plywood Underlayment: Provide APA-rated, Underlayment grade, exterior plywood, 5/8 inch (15.9 mm) thick unless otherwise indicated.

## 2.04 DIMENSION LUMBER

- A. For light framing provide "Stud," "No. 3," or "Standard" grade lumber for stud framing (2 to 4 inches thick, 2 to 4 inches wide, 10 feet and shorter) and "Stud" or "No. 3" grade for other light framing (2 to 4 inches thick, 2 to 6 inches wide), any species.

## 2.05 CONSTRUCTION PANELS FOR BACKING

- A. Plywood Backing Panels: For mounting electrical or telephone equipment, provide fire-retardant-treated plywood panels with grade designation, APA C-D Plugged Exposure 1, in thickness indicated, or, if not otherwise indicated, not less than 15/32 inch.

## 2.06 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 masonry or concrete contact, or in areas of high relative humidity, provide fasteners with a hot-dip zinc coating per ASTM A 153 or of AISI Type 304 stainless steel.
- B. Nails, Wire, Brads, and Staples: FS FF-N-105.
- C. Power Driven Fasteners: National Evaluation Report NER-272.
- D. Wood Screws: ANSI B18.6.1.
- E. Lag Bolts: ANSI B18.2.1.
- F. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and where indicated, flat washers.
- G. Masonry Anchoring Devices: Expansion shields, masonry nails and drive screws: FS FF-S-325.
- H. Toggle Bolts: FS FF-B-588.
- I. Bar or Strap Anchors: ASTM A575 carbon steel bars.
- J. Wall Plugs: Corrugated type, galvanized steel, 24 USS gage min, not less than 2" wide x 2-1/2" deep.

## 2.07 MISCELLANEOUS MATERIALS

- A. Adhesives for Field Gluing Panels: Formulation complying with APA AFG-01 that is approved for use with type of construction panel indicated by both adhesive and panel manufacturer.

## 2.08 PRESERVATIVE WOOD TREATMENT BY PRESSURE PROCESS

- A. General: Where lumber or plywood is indicated as preservative-treated wood or is specified herein to be treated, comply with applicable requirements of AWP Standards C2 (Lumber) and C9 (Plywood). Mark each treated item with the AWPB or SPIB Quality Mark Requirements.

- B. Pressure-treat with water-borne preservatives to a minimum retention of 0.25 pcf. For interior uses, 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:
  - 1. Wood nailers, sub floors and underlayment, equipment support bases, blocking, stripping, and similar members in connection with concrete vapor barriers, and waterproofing.
  - 2. Wood sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
- C. Complete fabrication of treated items prior to treatment, where possible. If cut after treatment, coat cut surfaces to comply with AWWPA M4. Inspect each piece of lumber or plywood after drying and discard damaged or defective pieces.

## 2.09 FIRE-RETARDANT TREATMENT BY PRESSURE PROCESS

- A. General: Where fire-retardant-treated wood is indicated, pressure impregnate lumber and plywood with fire-retardant chemicals to comply with AWWPA C20 and C27, respectively, for treatment type indicated; identify "fire-retardant- treated wood" with appropriate classification marking of Underwriters Laboratories, Inc., U.S. Testing, Timber Products Inspection, Inc. or other testing and inspecting agency acceptable to authorities having jurisdiction.
  - 1. Current Evaluation/Research Reports: Provide fire-retardant-treated wood for which a current model code evaluation/research report exists that is acceptable to authorities having jurisdiction and that evidences compliance of fire-retardant-treated wood for application indicated.
- B. Interior Type A: For interior locations use fire-retardant chemical formulation that produces treated lumber and plywood with the following properties under conditions present after installation:
  - 1. No reduction takes place in bending strength, stiffness, and fastener holding capacities below values published by manufacturer of chemical formulation that are based on tests by a qualified independent testing laboratory of treated wood products identical to those indicated for this Project under elevated temperature and humidity conditions simulating installed conditions.
  - 2. No other form of degradation occurs due to acid hydrolysis or other causes related to manufacture and treatment.
  - 3. No corrosion of metal fasteners results from their contact with treated wood.
- C. Inspect each piece of treated lumber or plywood after drying and discard damaged or defective pieces.

- D. Available Products: Subject to compliance with requirements, fire-retardant-treated wood products that may be incorporated in the Work include, but are not limited to, the following:
  - 1. Interior Type A Fire-Retardant-Treated Wood:
    - a. "Dricon," Hickson Corporation.
    - b. "Pyro-Guard," Hoover Treated Wood Products.
    - c. "Flameproof LHC-HTT," Osmose Wood Preserving Co, Inc.
    - d. Or Approved Equal.
- E. Fire-Retardant Treatment: Treat all wood and wood products to be fire-retardant, using the method prescribed in the New York City Building Code. Identify treated lumber with appropriate marking.

### **PART 3 - EXECUTION**

#### **3.01 EXAMINATION**

- A. Verification of Conditions: Examine substrate and supporting structure on which rough carpentry is to be installed for defects that will adversely affect the execution and quality of the Work. Do not proceed with installation until unsatisfactory conditions are corrected.

#### **3.02 INSTALLATION, GENERAL**

- A. Discard units of material with defects that impair quality of rough carpentry construction and that are too small to use in fabricating rough carpentry with minimum joints or optimum joint arrangement.
- B. Set rough carpentry to required levels and lines, with members plumb and true to line and cut and fitted.
- C. Fit rough carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction.
- D. Securely attach rough carpentry work to substrate by anchoring and fastening with threaded fasteners unless otherwise as indicated.
- E. Countersink nail heads on exposed carpentry work and fill holes.
- F. Use threaded fasteners and screws, unless otherwise indicated. 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.
- G. Fire-Retardant Treated Wood: Do not rip or mill; only end cuts, drilling holes and joining cuts shall be permitted.
  - 1. Where material is cut to length, shaped or grooved after treatment, surfaces thereby exposed shall be protected by tightly butting them against noncombustible or fire-retardant treated material, in accordance with the NYC Building Code. Drilled holes shall be covered with tightly fitting noncombustible cover plates.

#### **3.03 WOOD GROUNDS, NAILERS, AND BLOCKING**

- A. Install wood grounds, nailers, and blocking, where 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.

#### 3.04 WOOD FURRING

- A. Install plumb and level with closure strips at edges and openings. Shim with wood as required for tolerance of finished work.
- B. Furring to Receive Paneling: Install horizontally and vertically. Select furring for freedom from knots capable of producing bent-over nails and resulting damage to paneling.

#### 3.05 INSTALLATION OF CONSTRUCTION AND BACKING PANELS

- A. General: Comply with applicable recommendations contained in Form No. E30, "APA Design/Construction Guide - Residential & Commercial," for types of construction panels and applications indicated.
- B. Fastening Methods: Fasten panels as indicated below:
  - 1. Plywood Backing Panels: Nail, screw or bolt to supports.
  - 2. Panels exposed to High Humidity: As indicated by substrate material or directed. Nails, screws or bolts, galvanized or stainless steel for use where applicable.
- C. Fastening Methods: Fasten panels as indicated below:
  - 1. Subflooring: Glue and screw to framing. Continually glue and screw, 6" o.c. on panel edges and 8" o.c. over sleepers or blocking.

#### 3.06 ROUGH HARDWARE

- A. Furnish all rough hardware, such as nails, bolts, buck anchors, clips, (including expansion and carriage bolts for wall mounting, etc.), and all other rough hardware required to secure the carpentry work in place, unless otherwise specified.

END OF SECTION