

SECTION 06105 - MISCELLANEOUS CARPENTRY

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings, General Conditions and Supplementary General Conditions and other Division-1 Specification Sections, apply to this Section.

SUMMARY

Types of work in this section include rough carpentry for:

- Wood grounds, nailers and blocking
- Misc. wood Framing and furring.
- Exterior Sheathing – Roof and Wall Sheathing.

Related Sections: The following Sections contain requirements that relate to this Section:

~~Division 3 Section "Cast In Place Concrete" for wood formwork.~~

~~Division 6 Section "Interior Architectural Woodwork" for cabinetry.~~

SUBMITTALS

General: Submit the following according to Conditions of Contract and Division 1 Specification Sections.

Wood treatment data from chemical treatment manufacturer. Include chemical treatment manufacturer's instructions for handling, storing, installing, and finishing treated material.

Preservative Treatment: Include certification by treatment plant stating type of solution and pressure process used, net amount of preservative retained, and compliance with applicable standards.

Waterborne Preservative Treatment: Include certification that moisture content of treated wood was reduced to levels specified prior to shipment to Project site.

Fire-Retardant Treatment: Include certification by treating plant that treated wood complies with specified requirements.

Warranty: Include warranty of chemical treatment manufacturer for each type of treatment.

DELIVERY, STORAGE, AND HANDLING

Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack material above ground level on uniformly spaced supports to prevent deformation.

PART 2 - PRODUCTS

LUMBER, GENERAL

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.

Grade Stamps: Furnish lumber with each piece factory-marked with grade stamp of inspection agency that indicates grading agency, grade, species, moisture content at time of surfacing, and mill.

Sizes: Provide nominal sizes indicated, complying with PS 20 except where actual sizes are specifically noted as being required.

Surfacing: Dressed lumber, S4S, unless otherwise indicated.

DIMENSION LUMBER FOR CONCEALED CONDITIONS

Species: Southern yellow pine.

Moisture Content: S-DRY, KD 19 or MC 19 (19 percent maximum moisture content).

Grade: No. 2 standard grade. (Firetreated)

CONSTRUCTION PANELS

Standards: Comply with requirements of PS 1 Voluntary Product Standard "Construction and Industrial Plywood" for veneer plywood and APA PRP-108 "Performance Standards and Policies for Structural-Use Panels" for performance-rated panels.

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

APA Performance-Rated panels: Where construction panels will be used in the following applications, provide APA Performance-Rated Panels complying with requirements indicated for grade designation, exposure, durability classification, edge detail (where applicable) and thickness.

Roof Sheathing: PLYWOOD SHEATHING APA RATED

Exposure Durability Classification: EXTERIOR, EXP-1

Span Rating: As required to suit roof truss spacing indicated

Class A Fire Retardant – Flame Spread and Smoke Index

Thickness: **5/8" or as indicated on drawings.**

Wall Sheathing: APA EXTERIOR SHEATHING

Exposure Durability Classification: Structural – 1 Rated

Span Rating: As required to suit stud spacing indicated

Class A Fire Retardant – Flame Spread and Smoke Index

Thickness: **5/8" or as indicated on drawings.**

Other Applications: Includes but is not limited to:

Roof edge wood trim.

Plywood perimeter roof nailing substrate panels

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".

TYPICAL EXTERIOR FOAM BOARD INSULATING SHEATHING:

SEE DIVISION 7 – INSULATION

General: Where miscellaneous carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with a hot-dip zinc coating per ASTM A 153 or of AISI Type 304 stainless steel.

Nails, Wire, Brads and Staples: FS FF-N-105.

Bolts: ASTM A 307, Grade A; with ASTM A 563 hex nuts and flat washers.

FIRE-RETARDANT-TREATED MATERIALS

General: Where fire-retardant-treated materials are indicated, provide materials that comply with performance requirements in **AWPA C20 (lumber) and AWPA C27 (plywood)**. 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.

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 D 5664, for lumber and ASTM D 5516, for plywood**.

Use treatment that does not promote corrosion of metal fasteners.

Use Exterior type for exterior locations and where indicated.

Use Interior Type A High Temperature (HT), unless otherwise indicated.

WOOD TREATMENT BY PRESSURE PROCESS:

Preservative Treatment: Where lumber or plywood is indicated as "Treated," or is specified herein to be treated, comply with applicable requirements of AWPA Standards.

AWPA U1; Use categories as follows:

Use Category UC2 - for interior construction not in contact with the ground.

Use Category UC3b - for exterior construction not in contact with the ground.

Use Category UC4a - for items in contact with the ground.

Pressure-treat above-ground items 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:

Wood cants, nailers, curbs, 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.

Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Note, Coordinate appropriate type of fastener with type of "chemical pressure treatment".

For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.

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 that impair quality of miscellaneous carpentry and in sizes that would require an excessive number or poor arrangement of joints.

Cut and fit miscellaneous carpentry accurately. Install members plumb and true to line and level.

Coat cut edges of preservative-treated wood to comply with AWPA M4.

Securely fasten miscellaneous carpentry as indicated and according to applicable codes and recognized standards.

Countersink nail heads on exposed carpentry work and fill holes.

Use fasteners of appropriate type and length. Pre-drill members when necessary to avoid splitting wood.

WOOD GROUNDS, NAILERS, BLOCKING, AND SLEEPERS

Install where shown and where required for screeding or attachment of other work. Cut and shape to required size. 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.

Furring to Receive Plaster Lath: Install 1-by-2-inch furring at 16 inches o.c., vertically.

CONSTRUCTION PANELS

Comply with applicable installation recommendations in APA Form E30 "Design/Construction Guide-- Residential & Commercial."

END OF SECTION 06105

SECTION 06192 - PREFABRICATED WOOD TRUSSES

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: Prefabricated wood truss structural units consisting of metal plate connected members which are fabricated from dimension lumber and which have been cut and assembled prior to delivery to the job site.

Flat bottom chord trusses.

Roof Pattern & Roof pitch - see drawings.

QUALITY ASSURANCE:

TPI Standards: Comply with applicable requirements and recommendations of the following Truss Plate Institute (TPI) publications:

"Design Specification for Metal Plate Connected Wood Trusses".

Wood Structural Design Standard: Comply with applicable requirements of "National Design Specification for Wood Construction" published by N.F.P.A.

Lumber Standard: Comply with PS 20 and with applicable rules of the respective grading inspecting agencies for species and grade of lumber indicated.

Connector Plate Manufacturer's Qualifications: Provide truss connector plates manufactured by a firm which is a member of TPI and which complies with TPI quality control procedures for manufacture of connector plates published in TPI "Quality Control Manual".

SUBMITTALS:

Product Data: Submit fabricator's technical data covering lumber, metal plates, hardware, fabrication process, treatment (if any), handling and erection.

Shop Drawings: Submit shop drawings (NCSBC Section 2303.4.3 Truss Submittal Package) showing species, sizes and stress grades of lumber to be used; pitch, span, camber configuration and spacing for each type of truss required; type, size, material, finish, design value, and location of metal connector plates; and bearing and anchorage details. The shop drawings shall include the permanent individual truss member restraint/bracing method and details and any other structural details relative to the design and installation of the trusses. Provide shop drawings which have been signed and stamped by a structural engineer licensed to practice in the state where trusses are fabricated and erected.

Include as part of shop drawings engineering design considerations, submit design analysis and test reports indicating loading, section modulus, assumed allowable stress, stress diagrams and

calculations, and similar information needed for analysis and to ensure that trusses comply with requirements.

DELIVERY, STORAGE, HANDLING:

Handle and store trusses with care, and in accordance with manufacturer's instructions and TPI recommendations to avoid damage from bending, overturning or other cause for which truss is not designed to resist or endure.

PART 2 - PRODUCTS

ACCEPTABLE MANUFACTURERS:

Available Manufacturers: Subject to compliance with requirements, manufacturers offering metal connector plates which may be incorporated in the work include, but are not limited to, the following:

Alpine Engineered Products, Inc.

Gang Nail Systems, Inc.

MATERIALS:

Lumber:

Factory mark each piece of lumber with type, grade, mill and grading agency.

Nominal sizes are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for dressed lumber, S4S, unless otherwise indicated.

Provide seasoned lumber with a maximum moisture content at time of dressing of 19%.

Lumber Species: Southern Pine graded by SPIB.

Lumber Grade: No. 2

Uses: All truss members (top cords, bottom cords, web members)

Metal Connector Plates, Fasteners and Anchorages:

Connector Plate Material: Metal complying with following requirements, unless otherwise indicated; not less than "0.036" thick, coated thickness (Contractors option if more than one metal indicated).

Hot-Dip Galvanized Sheet Steel: Structural (physical) quality steel sheet complying with ASTM A 446, Grade A, zinc coated by hot-dip process to comply with ASTM A 525, Designation G60; minimum coated metal thickness not less than 0.036".

Provide size, type, material and finish indicated, complying applicable Federal Specifications for nails, screws, bolts, nuts and washers and anchoring devices.

FABRICATION:

Cut truss members to accurate lengths, angles and sizes to produce close fitting joints with wood-to-wood bearing in assembled units.

Fabricate metal connector plates to size, configuration, thickness and anchorage details required for types of joint designs indicated.

Assemble truss members in design configuration indicated using jigs or other means to ensure uniformity and accuracy of assembly with close fitting joints.

Connect truss members by means of metal connector plates accurately located and securely fastened to wood members by means indicated or approved.

PART 3 - EXECUTION

Truss design drawings as stated in NCSBC Section 2303.4.1.1 shall be submitted to the Building Official prior to erection of trusses and shall also be provided with shipment of trusses delivered to the job site. Each individual truss design drawing shall bear the North Carolina seal and signature of the wood truss manufacturer's truss designer.

General: Erect and brace trusses to comply with recommendations of manufacturer, the Truss Plate Institute and the Building Component Safety Information (BSCI) Document – guide to good practice for handling, installing, restraining and bracing metal plate connected trusses.

Erect trusses with plane of truss webs vertical (plumb) and parallel to each other, located accurately at design spacings indicated.

Provide temporary bracing as required to maintain trusses plumb, parallel and in location indicated, until permanent bracing is installed.

Anchor trusses securely at all bearing points to comply with methods and details indicated.

Install permanent bracing and related components to enable trusses to maintain design spacing, withstand live and dead loads including lateral loads, and to comply with other indicated requirements.

DO NOT CUT OR REMOVE TRUSS MEMBERS UNDER ANY CIRCUMSTANCE WITHOUT WRITTEN APPROVAL FROM BOTH THE ARCHITECT AND TRUSS MANUFACTURER.

End of SECTION 06192