

DIVISION 06

**WOOD, PLASTICS, AND
COMPOSITES**

Part 1 General

1.1 DESCRIPTION

- .1 This section specifies the supply and installation of rough carpentry for wood framed buildings.

1.2 RELATED WORK

- .1 Section 06 17 53 – Shop-Fabricated Wood Trusses
- .2 Section 07 21 13 – Board Insulation
- .3 Section 07 21 16 – Batt and Blanket Insulation
- .4 Division 09 – Painting
- .5 Section 08 11 00 – Metal Doors and Frames

1.3 QUALITY ASSURANCE

- .1 Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- .2 Plywood identification: by grade mark in accordance with applicable CSA standards.
- .3 Design of connections of all structural members shall be the responsibility of the Contractor's Engineer. Each drawing submitted shall bear the signature and stamp of a qualified Professional Engineer registered in the Province of Manitoba.

Part 2 Products

2.1 LUMBER MATERIAL

- .1 Lumber: unless specified otherwise, softwood, S4S, moisture content 19% or less in accordance with following standards:
 - .1 CSA-O141-05(R2014).
 - .2 Machine stress-rated lumber is acceptable for all purposes.
- .2 Machine stress-rated lumber is acceptable for all purposes.
- .3 Glued end-jointed or finger-jointed lumber is not acceptable.
- .4 Framing and board lumber: in accordance with NBC 1995, Subsection 9.3.2, per the drawings.
- .5 Furring, blocking, nailing strips, grounds, rough bucks, cants, curbs, fascia backing and sleepers:
 - .1 SPF grade No. 2 or better.

2.2 PANEL MATERIALS

- .1 Panel standards: type, grade and thickness as indicated, in accordance with following standards:
- .2 Canadian softwood plywood (CSP): to CSA-O151-09(R2014), standard construction. No-added urea formaldehyde.

2.3 PANEL MATERIALS END USES

- .1 Roof sheathing:
 - .1 Plywood CSP plywood, exterior sheathing grade with thickness as per the drawings.
- .2 Exterior Wall Sheathing
 - .1 CSP Plywood exterior, square edge. Thickness as per the drawings.
- .3 Interior wall sheathing
 - .1 Softwood lumber: to CSA-0141 and National Lumber Grades Authority requirements, with maximum moisture content of 15% for interior work, Douglas Fir species, to AWMAC premium grade.
 - .2 Canadian softwood plywood: to CSA-0151 solid two sides, good one side, medium density overlaid two sides grade.
 - .3 Douglas fir plywood: to CSA-0121-08(R2013), good two sides, medium density, overlaid two sides grade.

2.4 DAMPPROOF MEMBRANE

- .1 Polyethylene film: to CGSB-51.33, Type (1), (0.15) mm thick.
- .2 Roll roofing: to CSA-A123.2-03(R2013), Type S.

2.5 BUILDING PAPER

- .1 Exterior wall sheathing paper: to GGSB-51.32.

2.6 FASTENERS

- .1 Nails, spikes and staples: to CSA-B111-1974(R2003).
- .2 Bolts: 12.5 mm diameter unless indicated otherwise, complete with nuts and washers.
- .3 Proprietary fasteners: toggle bolts, expansion shields and lag bolts, screws and lead or inorganic fibre plugs (explosive actuated fastening devices) recommended for purpose by manufacturer.
- .4 Stainless steel: use stainless steel 316 alloy as indicated on the drawings.
- .5 Joist hangers: minimum 1 mm thick sheet steel, galvanized (ZF001) coating designation, 6.7 kN bearing strength.
- .6 Roof sheathing H-Clips: formed "H" shape, thickness to suit panel material, extruded 6063-T6 aluminum alloy type approved by Engineer.

2.7 PRESSURE TREATED WOOD

- .1 Provide lumber and plywood materials pressure preservative treated for the following:
 - .1 Furring, blocking on exterior of building.
 - .2 Wood below grade or in contact with ground.
 - .3 Other materials indicated on the drawings.
- .2 Preservative: to CSA-O80-08(R2012) Series, water-borne, alkaline copper quaternary (ACQ); or copper azole (CA-C) for clear finish.

- .3 Treat material to CSA O80-08(R2012) Series using preservative to obtain minimum net retention for exposures as follows:
 - .1 UC3.2 - material above grade.
 - .2 UC4.1 - material below grade or in contact with ground.
- .4 Each piece of treated material shall be identified with a tag or ink mark bearing the Canadian Wood Preservers' Bureau quality mark.
- .5 Following water-borne preservative treatment, dry material to maximum moisture content of 19% or less.
- .6 Field treatment: comply with AWWA M4 and revisions specified in CSA O80 Series, Supplementary Requirements to AWWA M2. Apply surface applied wood preservative to heartwood exposed from trimming, cutting, or boring.
- .7 Remove chemical deposits on treated wood to receive applied finish.
- .8 Pressure treated wood cannot be installed inside the vapour barrier.

2.8 WOOD PRESERVATIVE

- .1 Surface-applied wood preservative: copper naphthenate or 5% pentachlorophenol solution, water repellent preservative.

Part 3 Execution

3.1 CONSTRUCTION

- .1 Comply with requirements of NBC (latest edition), Part 9 supplemented by following Articles.

3.2 ERECTION OF FRAMING MEMBERS

- .1 Install members true to line, levels and elevations.
- .2 Construct continuous members from pieces of longest practical length.
- .3 Install spanning members with "crown-edge" up.

3.3 DEFACEMENT MARKS

- .1 Install lumber and panel materials, as indicated so that grade-marks and other defacing marks are not visible on surfaces specified to be left unfinished or to be finished with translucent or transparent type coating.
- .2 Surface cutting or sanding to remove defacement marks is acceptable only in locations where defacement will not be evident after finishing.

3.4 WALL SHEATHING

- .1 Install GIS plywood wall sheathing in accordance with manufacturer's printed instructions.

3.5 FURRING AND BLOCKING

- .1 Install furring and blocking as required to space-out and support casework, cabinets, wall and ceiling finishes, facings, fascia, soffit, siding and other work as required.

- .2 Install furring to support siding applied vertically (where there is no blocking and) where sheathing is not suitable for direct nailing.
- .3 Align and plumb faces of furring and blocking to tolerance of (1:600).
- .4 Provide intermediate blocking between studs at maximum 1200 mm O.C. horizontally on all stud wall construction. Nail all edges of plywood to blocking.

3.6 NAILING STRIPS, GROUNDS AND ROUGH BUCKS

- .1 Install rough bucks, nailers and linings to rough openings as required to provide backing for frames and other work.

3.7 CANTS, CURBS AND FASCIA BACKING

- .1 Install wood cants, fascia backing, nailers, curbs and other wood supports as required and secure using galvanized fasteners.
- .2 Install wood backing, dressed, tapered and recessed slightly below top surface of roof insulation for roof hopper.

3.8 FASTENERS

- .1 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.
- .2 Countersink bolts where necessary to provide clearance for other work.
- .3 Use nailing disks for soft sheathing as recommended by sheathing manufacturer.

3.9 SURFACE - APPLIED WOOD PRESERVATIVE

- .1 Treat surfaces of material with wood preservative before installation.
- .2 Apply preservative by dipping, or by brush to completely saturate and maintain wet film on surface for minimum 3 minute soak on lumber and one minute soak on plywood.
- .3 Re-treat surfaces exposed by cutting, trimming or boring with liberal brush application of preservative before installation.
- .4 Treat all material as follows:
 - .1 Wood furring and blocking for outside surface of foundation as shown on the drawings.

3.10 INTERIOR CLADDING ERECTION

- .1 Set and secure materials and components in place, rigid plumb and square.
- .2 Prepare external exposed and semi-exposed surfaces ready for sealing, staining and varnishing or painting.
- .3 Prepare internal non-exposed surfaces ready for sealing with varnish or shellac.

3.11 ELECTRICAL EQUIPMENT BACKBOARDS

- .1 Provide backboards for mounting electrical equipment as indicated. Use (19) mm thick plywood on 19 x 38 mm furring around perimeter and at maximum 300 mm intermediate spacing.

END OF SECTION

Part 1 General

1.1 DESCRIPTION

- .1 This section specifies requirements for the supply, delivery and installation of prefabricated wood trusses.

1.2 REFERENCE STANDARDS

- .1 Engineering Design in Wood CSA-O86-14.
- .2 Load Test Procedure for Wood Roof Trusses for Houses and Small Buildings - CSA-S307-M1980 (R2006).
- .3 Softwood Lumber - CSA-O141-05 (R2014).

1.3 QUALITY ASSURANCE

- .1 Identify lumber by grade stamp of an agency certified by Canadian Lumber Standards Administration Board.
- .2 Certify preservative and fire retardant treated wood in accordance with CSA-O80 Series-08 (R2012).

1.4 SUBMITTALS

- .1 Submit shop drawings in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Design of the engineered wood trusses shall be the responsibility of the manufacture's Engineer.
- .3 Each shop drawing submitted shall bear the stamp of a qualified professional engineer registered in the Province of Manitoba.
- .4 Indicate species, sizes and stress grades of lumber used as truss members. Show pitch, span, camber configuration and spacing of trusses. Indicate connector types, thicknesses, sizes, locations and design value. Show bearing details.
- .5 Submit stress diagram indicating design load on each truss member, special loads, allowable stress increase and deflection limits.
- .6 Submit print-out of computer design.
- .7 Indicate arrangements of webs or other members to accommodate ducts and other specialties
- .8 Submit a truss layout.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- .1 Store trusses on job site in accordance with manufacturer's instructions. Provide bearing supports and bracings to prevent bending or overturning of trusses during transit and storage.

1.6 DESIGN CRITERIA

- .1 Design roof trusses, bridging and connectors in accordance with CSA-O86-14 to safely carry loads as indicated.
- .2 Use building locality as ascertained by NBC Supplement No. 1, Climate Information for Building Design in Canada for load determinations.
- .3 Limit live load deflections to 1/360th of span.
- .4 Truss supplier to provide all bracing and blocking as per truss plate commentary HIB-91.

Part 2 Products

2.1 MATERIALS

- .1 Lumber: SPF species, No.2 grade, softwood, with maximum moisture content of 19% at time of fabrication and in accordance with the following standards:
 - .1 CSA-O141.
 - .2 NLGA Standard Grading Rules for Canadian Lumber, 1996.
- .2 Fastenings: to CSA-086-14.

2.2 FABRICATION

- .1 Fabricate wood trusses in accordance with approved shop drawings.
- .2 Cut truss members to accurate length, angle and size to assure tight joints for finished trusses.
- .3 Assemble truss members in design configuration by securing tightly in jigs or with clamps.
- .4 Provide for design camber when positioning truss members.
- .5 Connect members using connector plates.
- .6 Design and provide metal connectors to support walls which will safely resist uplift forces.

2.3 WOOD TREATMENT

- .1 If required, apply wood treatment in accordance with CSA-O80.

Part 3 Execution

3.1 ERECTION

- .1 Lifting points, as indicated, shall be used to hoist trusses into position.
- .2 Exercise care to prevent out-of-plane bending of trusses.
- .3 Install temporary horizontal and cross bracing to hold trusses plumb and in safe condition until permanent bracing is installed.
- .4 Install permanent bracing and related components prior to application of loads to trusses.

- .5 Trusses with loose connector plates are not acceptable.
- .6 Restrict construction loads to prevent overstressing of truss members.
- .7 Do not cut or remove any truss material.
- .8 Remove with fine sandpaper, chemical deposits on treated wood to receive applied finishes.

END OF SECTION