

Part 1 General**1.1 REFERENCES**

- .1 American National Standards Institute/National Particleboard Association (ANSI/NPA)
 - .1 ANSI/NPA A208.1-2009, Particleboard.
- .2 ASTM International
 - .1 ASTM A 123/A 123M-09, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - .2 ASTM A 653/A 653M-11, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanealed) by the Hot-Dip Process.
 - .3 ASTM C 578-11a, Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
 - .4 ASTM C 1289-11, Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
 - .5 ASTM C 1396/C 1396M-11, Standard Specification for Gypsum Board.
 - .6 ASTM D 1761-06, Standard Test Methods for Mechanical Fasteners in Wood.
 - .7 ASTM D 5055-11, Standard Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-Joists.
 - .8 ASTM D 5456-11, Standard Specification for Evaluation of Structural Composite Lumber Products.
- .3 Canada Green Building Council (CaGBC)
 - .1 LEED Canada-NC Version 1.0-2004, LEED (Leadership in Energy and Environmental Design): Green Building Rating System for New Construction and Major Renovations (including Addendum 2007).
 - .2 LEED Canada-NC-2009, LEED (Leadership in Energy and Environmental Design): Green Building Rating System for New Construction and Major Renovations 2009.
- .4 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-11.3-M87, Hardboard.
 - .2 CAN/CGSB-51.32-M77, Sheathing, Membrane, Breather Type.
 - .3 CAN/CGSB-51.34-M86, Vapour Barrier, Polyethylene Sheet for Use in Building Construction and amendment.
 - .4 CAN/CGSB-71.26-M88, Adhesive for Field-Gluing Plywood to Lumber Framing for Floor Systems.
- .5 CSA International
 - .1 CAN/CSA-A123.2-03(R2008), Asphalt Coated Roofing Sheets.
 - .2 CAN/CSA-A247-M86(R1996), Insulating Fiberboard.
 - .3 CSA B111-1974(R2003), Wire Nails, Spikes and Staples.

- .4 CSA O112.9-10, Evaluation of Adhesives for Structural Wood Products (Exterior Exposure).
- .5 CSA O121-08, Douglas Fir Plywood.
- .6 CAN/CSA O122-06(R2011), Structural Glued-Laminated Timber.
- .7 CSA O141-05(R2009), Softwood Lumber.
- .8 CSA O151-09, Canadian Softwood Plywood.
- .9 CSA O153-M1980(R2008), Poplar Plywood.
- .10 CSA O325-07, Construction Sheathing.
- .11 CSA O437 Series-93(R2011), Standards on OSB and Waferboard.
- .12 CAN/CSA-Z809-08, Sustainable Forest Management.
- .6 Forest Stewardship Council (FSC)
 - .1 FSC-STD-01-001-2004, FSC Principle and Criteria for Forest Stewardship.
- .7 National Lumber Grades Authority (NLGA)
 - .1 Standard Grading Rules for Canadian Lumber 2010.
- .8 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards
 - .1 SCAQMD Rule 1113-A2011, Architectural Coatings.
 - .2 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.
- .9 Sustainable Forestry Initiative (SFI)
 - .1 SFI-2010-2014 Standard.
- .10 The Truss Plate Institute of Canada
 - .1 Truss Design Procedures and Specifications for Light Metal Plate Connected Wood Trusses 2007.
- .11 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN/ULC-S706-09, Standard for Wood Fibre Insulating Boards for Buildings.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for wood products and accessories and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Shop Drawings:
 - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Province of Ontario, Canada.

1.3 QUALITY ASSURANCE

- .1 Lumber by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- .2 Plywood, particleboard, OSB and wood based composite panels in accordance with CSA and ANSI standards.
- .3 Sustainable Standards Certification:
 - .1 Certified Wood: submit listing of wood products and materials used in accordance with CAN/CSA-Z809 or FSC.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect wood from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.
- .4 Develop Construction Waste Management Plan related to Work of this Section and in accordance with Division 1.
- .5 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, and packaging materials as specified in Construction Waste Management Plan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

Part 2 Products**2.1 FRAMING STRUCTURAL AND PANEL MATERIALS**

- .1 Description:
 - .1 Sustainability Characteristics:
 - .2 Lumber, Finger Jointed L umber, CAN/CSA-Z809 or FSC certified.
 - .3 Plywood, Particleboard and OSB urea-formaldehyde free, CAN/CSA-Z809 or FSC certified.
- .2 Lumber: softwood, S4S, moisture content 19% (S-dry) or less in accordance with following standards:
 - .1 CSA O141.
 - .2 NLGA Standard Grading Rules for Canadian Lumber.
- .3 Framing and board lumber: in accordance with NBC.

- .4 Furring, blocking, nailing strips, grounds, rough bucks, cants, curbs, fascia backing and sleepers:
- .5 Board sizes: "Standard" or better grade.
- .6 Dimension sizes: "Standard" light framing or better grade.
- .7 Post and timbers sizes: "Standard" or better grade.
- .8 Plywood, OSB and wood based composite panels: to CSA O325.
- .9 Douglas fir plywood (DFP): to CSA O121, standard construction.
- .10 Canadian softwood plywood (CSP): to CSA O151, standard construction.
- .11 Poplar plywood (PP): to CSA O153, standard construction.
- .12 Interior mat-formed wood particleboard: to ANSI/NPA 208.1.
- .13 Mat-formed structural panelboards (OSB wafer): to CAN O437.
- .14 Insulating fiberboard sheathing: to CAN/CSA-A247 and CAN/ULC-S706.
- .15 Glass fibre board sheathing: non-structural, rigid, faced, fiberglass, insulating exterior sheathing board.
- .16 Gypsum sheathing: to ASTM C 1396/C 1396M.

2.2 ACCESSORIES

- .1 Polyethylene film: to CAN/CGSB-51.34, Type 1 , 0.15 mm thick.
- .2 Roll roofing: to CAN/CSA A123.2, Type S.
- .3 Air seal: closed cell polyurethane or polyethylene.
- .4 Sealants: in accordance with Section 07 92 00 - Joint Sealants.
 - .1 Sealants: VOC limit 250 g/L maximum to SCAQMD Rule 1168.
- .5 General purpose adhesive: to CSA O112.9.
 - .1 VOC limit 70 g/L maximum to SCAQMD Rule 1168.
- .6 Nails, spikes and staples: to CSA B111.
- .7 Bolts: 12.5 mm diameter unless indicated otherwise, complete with nuts and washers.
- .8 Proprietary fasteners: toggle bolts, expansion shields and lag bolts, screws and lead or inorganic fibre plugs, recommended for purpose by manufacturer.
- .9 Nailing discs: flat caps, minimum 25 mm diameter, minimum 0.4 mm thick, sheet metal, formed to prevent dishing. Bell or cup shapes not acceptable.
- .10 Roof sheathing H-Clips: formed "H" shape, thickness to suit panel material, type approved by Departmental Representative.
- .11 Fastener Finishes:
 - .1 Galvanizing: to ASTM A 123/A 123M, ASTM A 653, use galvanized fasteners for all areas.
 - .2 Stainless steel: use stainless steel 316 alloy where available instead of galvanized

- .12 Wood Preservative:
 - .1 Preservative Coating: in accordance with manufacturer's recommendations for surface conditions:
 - .1 Preservative: VOC limit 350 g/L maximum to SCAQMD Rule 1113.
 - .2 Coatings: VOC limit 100 g/L maximum to SCAQMD Rule 1113.

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for product installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.2 PREPARATION

- .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 material as follows:
 - .1 Wood cants, fascia backing, curbs, nailers, sleepers on roof deck.

3.3 MATERIAL USAGE

- .1 Electrical equipment mounting boards:
 - .1 Plywood, DFP or CSP sheathing grade, or PP standard sheathing grade, square edge 19 mm thick.

3.4 INSTALLATION

- .1 Install members true to line, levels and elevations, square and plumb.
- .2 Construct continuous members from pieces of longest practical length.
- .3 Install spanning members with "crown-edge" up.
- .4 Select exposed framing for appearance. Install lumber and panel materials so that grade-marks and other defacing marks are concealed or are removed by sanding where materials are left exposed.

- .5 Install furring and blocking as required to space-out and support casework, cabinets, wall and ceiling finishes, facings, fascia, soffit, siding, electrical equipment mounting boards, and other work as required.
- .6 Install furring to support siding applied vertically where there is no blocking and where sheathing is not suitable for direct nailing.
 - .1 Align and plumb faces of furring and blocking to tolerance of 1:60.
- .7 Install rough bucks, nailers and linings to rough openings as required to provide backing for frames and other work.
- .8 Install wood cants, fascia backing, nailers, curbs and other wood supports as required and secure using galvanized steel fasteners.
- .9 Install sleepers as indicated.
- .10 Use dust collectors and high quality respirator masks when cutting or sanding wood panels.
- .11 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.
- .12 Countersink bolts where necessary to provide clearance for other work.
- .13 Use nailing disks for soft sheathing as recommended by sheathing manufacturer.

3.5 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.6 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by rough carpentry installation.

END OF SECTION