

PART 1 - GENERAL

1.1 SUMMARY

1. Section Includes:
 1. Wood blocking and nailers.
 2. Wood furring.
 3. Wood sleepers.
 4. Plywood blocking within walls.
 5. Plywood backing panels.
2. Related Work
 1. Division 09 Section *Interior Painting* for priming and finish paint of equipment backer boards prior to use.
3. Types of items not described in this Section:
 1. Framing with dimension lumber.
 2. Framing with engineered wood products.
 3. Utility shelving.
 4. Lumber treated with fire-retardant.

1.2 DEFINITIONS

1. Dimension Lumber: Lumber of 38 mm actual or greater but less than 114 mm actual in least dimension.
2. Lumber grading agencies, and the abbreviations used to reference them, include the following:
 1. NLGA: National Lumber Grades Authority.

1.3 ACTION SUBMITTALS

1. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
 2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
 3. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

1.4 DELIVERY, STORAGE, AND HANDLING

1. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

1. Certified Wood: Lumber and plywood shall be produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, *FSC Principles and Criteria for Forest Stewardship*.

2. Lumber: In accordance with:
 1. CAN/CSA-O141.
 2. NLGA Standard Grading Rules for Canadian Lumber.
3. Softwood Plywood panels: to CAN/CSA-O325.0.
4. Hardwood Veneer Plywood Panels: to HPVA HP-1.
5. Provide dressed lumber, S4S, unless otherwise indicated.
6. Maximum Moisture Content of Lumber: 19 percent for 38 mm actual thickness or less, no limit for more than 38 mm actual thickness unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

1. Preservative Treatment by Pressure Process: to CSA O80 Series 2, except that lumber that is not in contact with the ground and is continuously protected from liquid water may be treated with inorganic boron (SBX).
 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
2. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.
3. Mark lumber with treatment quality mark of an inspection agency approved by the Canadian Lumber Standards Accreditation Board.
4. Application: Treat items indicated on Drawings, and the following, unless otherwise noted.
 1. Wood nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapour barriers, and waterproofing.
 2. Wood sills, sleepers, blocking, and similar concealed members in contact with masonry or concrete.
 3. Furring attached directly to the interior of below-grade exterior masonry or concrete walls.
5. Surface treat wood materials with wood preservative and not pressure treated when wood materials are in direct contact with modified bituminous roofing membranes.

2.3 MISCELLANEOUS LUMBER

1. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 1. Blocking.
 2. Nailers.
 3. Rooftop equipment bases and support curbs.
 4. Furring.
2. For items of dimension lumber size, provide Construction or No. 2 grade lumber and any of the following species:
[and the following species:]
 1. Spruce-pine-fir; NLGA.
3. For concealed boards, provide lumber with 19 percent maximum moisture content and any of the following species and grades:

1. Spruce-pine-fir, Construction or No. 2 Common grade; NLGA.
4. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
5. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.
6. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

2.4 PLYWOOD

1. Telephone and Electrical Equipment Backing Panels: Veneer-Faced Panel Products (Hardwood Plywood) to HPVA HP-1, Grade B or better veneer, in thickness indicated or, if not indicated, not less than 18.5 mm thickness.
 1. Apply two coats of clear finish to backing panels in accordance with Division 09 Section *Staining and Transparent Finishing*, prior to installation of equipment.
2. Plywood Blocking: DFP or CSP sheathing grade or PP standard sheathing grade, T&G edge.

2.5 FASTENERS

1. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
2. Nails, Brads, and Staples: CSA B111.
3. Power-Driven Fasteners: NES NER-272.
4. Wood Screws: ASME B18.6.1.
5. Screws for Fastening to Metal Framing: ASTM C 954, length as recommended by screw manufacturer for material being fastened.
6. Lag Bolts: ASME B18.2.3.8M.
7. Bolts: Steel bolts complying with ASTM F 568M, Property Class 4.6; with ASTM A 563M hex nuts and, where indicated, flat washers.
8. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
 1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.

2.6 MISCELLANEOUS MATERIALS

1. Adhesives for Gluing Furring and Sleepers to Concrete or Masonry: Formulation complying with ASTM D 3498 that is approved for use indicated by adhesive manufacturer.

1. Adhesives shall have a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
2. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber or rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.6 mm.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

1. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, and similar supports to comply with requirements for attaching other construction.
2. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
3. Framing Standard: Comply with more stringent of *NBCC 2005 Part 9* and these specifications.
4. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels.
5. Metal Framing Anchors: Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
6. Do not splice structural members between supports unless otherwise indicated.
7. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
 1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 406 mm o.c.
8. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
9. Comply with manufacturer's instructions for applying field treatment to cut surfaces of preservative-treated lumber.
 1. Use inorganic boron for items that are continuously protected from liquid water.
 2. Use copper naphthenate for items not continuously protected from liquid water.
1. Securely attach rough carpentry work to substrate by anchoring and fastening.
2. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

3.2 WOOD SLEEPER, BLOCKING, AND NAILER INSTALLATION

1. Install where indicated and where required for screeding or attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

2. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.

3.3 WOOD FURRING INSTALLATION

1. Install level and plumb with closure strips at edges and openings. Shim with wood as required for tolerance of finish work.
2. Furring to Receive Plywood or Hardboard Paneling: Install 19-by-63 mm actual-size furring at 406 mm o.c.

3.4 PROTECTION

1. Protect miscellaneous rough carpentry from weather. If, despite protection, miscellaneous rough carpentry becomes wet, apply borate treatment. Apply borate solution by spraying.

END OF SECTION