

PART 1 - GENERAL

- 1.1 Work Included .1 This Section specifies requirements for supplying, treating, transporting and installing all items of rough carpentry.
- 1.2 Related Work .1 Section 01 33 33: Shop Drawing/Submissions.
- 1.3 References
- .1 ASTM A307-14, Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod, 60,000 PSI Tensile Strength.
  - .2 ASTM A123/A123M-13, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
  - .3 CSA B111-1974 (R2003), Wire Nails, Spikes and Staples.
  - .4 CSA O80 Series-08 (R2012), Wood Preservation.
  - .5 CAN/CSA-O141-05 (R2014), Softwood Lumber.
  - .6 CSA 086-14, Engineering Design in Wood.
  - .7 National Lumber Grades Authority (NLGA) Standard Grading Rules for Canadian Lumber, 2014.
- 1.4 Quality Assurance .1 Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- 1.5 Submissions .1 At least two (2) weeks prior to finalizing timber order, submit drawing clearly indicating installation details and methodology for field treatment.

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.2 Provide submissions in accordance with Section 01 33 00.

1.6 Measurement  
For Payment

.1 Timber will be measured in accordance with Section 01 29 00.

PART 2 - PRODUCTS

2.1 Lumber Materials

.1 Softwood Timber: Graded and stamped to National Lumber Grading Authority (NLGA) No. 1 and in accordance with CAN/CSA-0141 reference standard with moisture content 19% or less.

.1 Timber Wheelguard and Chocks: Eastern or Western Hemlock Species.

.2 Glued end-jointed (finger-jointed) lumber is not acceptable.

.3 Machine stress-rated lumber is acceptable for all purposes.

2.2 Wood  
Preservative

.1 All Timber to be pressure preservative treated to CAN/CSA-080 Series for Marine Construction Coastal Waters. Use of creosote oil is not permitted.

.1 Treat timber to CAN/CSA-080.2 using CCA or ACA preservative with minimum retention of 24.0 kg/m<sup>3</sup>.

.2 Following water-borne preservative treatment, kiln dry material.

.2 Surface-applied wood preservative: clear copper naphthenate or 5% pentachlorophenol solution, water repellent preservative to meet specific requirements of CAN/CSA 080.

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- 2.3 Accessories .1 Hardware must meet the following specifications:
- .1 Anchor bolts, nuts and washers to ASTM A307.
  - .2 Hot dip galvanize hardware, anchor bolts, nuts and washers to ASTM A-123/A123M, with minimum zinc coating of 600g/m<sup>2</sup>.
  - .3 All hardware will be galvanized unless otherwise shown on the drawings.
  - .4 Bolts: 22 mm diameter unless indicated otherwise, complete with nuts and washers.
  - .5 Nails, spikes and staples: to CSA B111, galvanized for exterior work, plain finish for interior work.

### PART 3 - EXECUTION

- 3.1 General
- .1 Supply and install dimension timber wheelguards and chocks to details shown on drawings or as specified. Treated timber to be supplied in pre-cut lengths to suit.
  - .2 Boreholes for drift bolts to be 1.5mm smaller in diameter than bolt and for full length of bolt. Boreholes for machine bolts to be same diameter as bolts. Boreholes for lag bolts to be same diameter as shank for unthreaded portion and 0.70 times the shank diameter for the threaded portion. Threaded portion of lag bolts will be installed using a wrench, not by driving.
  - .3 All countersunk holes to be recessed 25 mm and shall receive a minimum of two coats of approved treatment, allowing sufficient time between applications to permit total absorption. The cost of supply and application of approved treatment will not be measured for payment but will be considered incidental to the work.
  - .4 Fill all countersunk holes with non-shrink grout, suitable for exterior work including

freeze-thaw conditions. See Section 03 30 00 for grout requirements.

### 3.2 Preparation and Handling Treated Timber

- .1 Handle treated material to avoid damage causing alteration in original treatment.
- .2 Treat cut surfaces of pressure preservative treated material with surface applied wood preservative, before installation, and as follows:
  - .1 Apply preservative by dipping, or by brush to completely saturate and maintain wet film on surface for minimum 3 minute soak on lumber. Treat field cuts and any abrasions with minimum of three (3) liberal applications of approved preservative, using either spray or brush.
  - .2 Re-treat surfaces exposed by cutting, trimming or boring with liberal brush application of preservative before installation.
  - .3 Treat all material as indicated.
  - .4 Treat in field spike holes, boreholes, plugged holes, cuts and any damage to treated material. Fill all unused holes with tight fitting treated wooden plugs prior to any exposure to water containing marine bores.
  - .5 Treat boreholes, using a pressurized container with an extension rod, to produce a fine spray in the holes with one application. Alternatively, a cylindrical brush may be used.
  - .6 Environmental Concern: Ensure no spillage or excess application of field preservative. Provide workers with sufficient training and protective gear to properly and safely handle the treated materials and to apply field treatment, so as to prevent undue

hazard to themselves, others, or the environment.

- .7 Contain all debris and leachates (films on water surface) within the area of the work by using containment facilities such as floating booms or screens.

3.3 Installation

- .1 Comply with requirements of NBC 2010.
- .2 Install members true to line, levels and elevations, square and plumb.
- .3 Construct continuous members from pieces of longest practical length.
- .4 Install spanning members with "crown-edge" up.
- .5 Install nailers and other wood supports as required and secure using galvanized fasteners. All wood supports to be pressure treated with wood preservative.

**END OF SECTION**