
PART 1 - GENERAL

- 1.1 Description of Work .1 This section specifies requirements for the following items:
.1 Ladders.
.2 Mooring cleats.
.3 Fenders and sheathing.
- 1.2 Reference Standards .1 ASTM A307, Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile.
.2 ASTM A48, Gray Iron Castings.
.3 CSA G164, Hot Dip Galvanizing of Irregularly Shaped Articles.
.4 CSA G40.21, Structural Quality Steels.
- 1.3 Related Work .1 Refer to other Specification Sections for related information.
.2 Section 01 33 00 - Submissions / Shop Drawings.
.3 Section 06 05 73 - Dimension Timber.
- 1.4 Submissions .1 Shop Drawings:
.1 Clearly indicate the following items:
.1 General arrangements, dimensions, clearance locations and directions of assemblies as installed on structures.
.2 Locations, sizes and installation tolerances of anchor bolts, eye bolts and embedded parts.
.3 Types of materials used, finishes and thickness.
.4 All other pertinent details and accessories.

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- .2 Product Data/Samples:
 - .1 Provide product data and manufacturer's brochure for new cleats.
 - .3 Test Results:
 - .1 Provide test results for all galvanized items.
 - .4 Submissions:
 - .1 Provide submissions in accordance with Section 01 33 00 - Submissions / Shop Drawings.
- 1.5 Measurement for Payment
- .1 Ladders, including all timber, rungs and fasteners shall be measured in accordance with Section 01 29 00 - Project Particulars and Measurement.
 - .2 Mooring cleats, including fasteners, mastic, painting, etc., shall be measured in accordance with Section 01 29 00 - Project Particulars and Measurement.

PART 2 - PRODUCTS

- 2.1 Dimension Timber
- .1 Miscellaneous Timber:
 - .1 All timber supplied by Contractor shall conform to Section 06 05 73 - Dimension Timber.
- 2.2 Hardware
- .1 Miscellaneous Hardware:
 - .1 Hardware shall meet the following specifications:
 - .1 Machine bolts, carriage bolts, lag bolts, drift bolts, anchor bolts, nuts and round plate washers shall meet the requirements of ASTM A307.
 - .2 Spikes shall meet the requirements of CSA B111.
 - .3 Hot dip galvanize hardware, bolts, nuts, washers and spikes to CSA

- G164, with minimum zinc coating of 600 g/m².
- .4 All hardware shall be hot dip galvanized, unless noted otherwise.
- .2 Miscellaneous Metal Items:
- .1 Metal items shall meet the following specifications:
- .1 Steel plates, ladder rungs, holdfasts and miscellaneous steel shall meet the requirements of CSA G40.21, Grade 300W.
- .2 Cast iron mooring cleats shall meet the requirements of ASTM A48, Class 25, with approximate weight of 41 kg (90 lb) each.
- .3 Contractor shall not use metal items manufactured or fabricated from scrap steel of unknown chemical composition or physical properties.
- .4 Unless noted otherwise, hot dip galvanize pipe sleeves, steel plates, rungs, holdfasts and all other miscellaneous steel items to CSA G164, with minimum zinc coating of 600 g/m².

PART 3 - EXECUTION

- 3.1 Ladders
- .1 Assemble ladder units and install completed units in locations shown on plan or as indicated by *Departmental Representative*.
- .2 Countersink bolts on exterior face of ladders, as shown.
- .3 Apply preservative treatment to areas of unprotected wood exposed during course of work in accordance with Section 06 05 73 - Dimension Timber.

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- 3.2 Mooring Cleats .1 Install new mooring cleats as shown and anchor to top of concrete curb in locations shown on plan or as indicated by *Departmental Representative*. Allow for 25 mm of grout under bases of mooring cleats.
- .2 Do not make alternations to any components without written permission from *Departmental Representative*.
- 3.3 Installation General .1 Boreholes for drift bolts to be 1.5 mm 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 shall be installed using a wrench, not by driving.
- .2 Contain all debris and leachates (films on water surface) within the area of the work by using containment facilities such as floating silt booms or silt screens.