
PART 1 - GENERAL

- 1.1 Description of Work
- .1 This section specifies requirements for the following items:
 - .1 Mooring cleats
 - .2 Fenders
 - .3 Existing Gangway Installations
 - .4 Floating Wharves
- 1.2 Reference Standards
- .1 ASTM A307-94 (or latest edition), Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile.
 - .2 CAN/CSA-G40.21-M92 (or latest edition), Structural Quality Steels.
 - .3 CAN/CSA-G164-M92 (or latest edition) - Hot Dip Galvanizing of Irregularly Shaped Articles.
 - .4 ASTM A48-94a (or latest edition), Gray Iron Castings
- 1.3 Related Work
- .1 Refer to other Specification Sections for related information.
 - .2 Refer to **Section 01 33 00** for Shop Drawing/Submissions requirements.
- 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 core thickness.
 - .4 All other pertinent details and accessories.
 - .2 Product Data/Samples:
 - .1 Provide product data and manufacturers brochures for the mooring cleats.

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- .3 Test Results:
 - .1 Provide test results for the galvanized items.
 - .4 Submissions
 - .1 Provide submissions in accordance with **Section 01 33 00.**
- 1.5 Measurement for Payment
- .1 Mooring cleats, including fastenings, will be measured in accordance with **Section 01 29 00.**
 - .3 Fenders, including fastenings, will be measured in accordance with **Section 01 29 00.**
 - .4 Gangways including fastenings, will be measured in accordance with **Section 01 29 00.**
 - .5 Floating Wharves, including timber, floatation billets, and fasteners, will be measured in accordance with **Section 01 29 00.**

PART 2 - PRODUCTS

- 2.1 Materials
- .1 Timber: Any timber supplied by Contractor must conform to **Section 06 05 73** Dimension Timber.
 - .2 Hardware and miscellaneous items must meet the following specifications:
 - .1 Machine bolts, lag bolts, drift bolts, anchor bolts, nuts, washers to ASTM A307.
 - .2 Steel plates, ladder rungs, holdfasts and miscellaneous steel: to CSA G40.21, Grade 300W.
 - .3 Mooring cleats: cast iron to ASTM A48, Class 25, with approximate weight of 41kg (90 lb.) each.
 - .4 Do not use items manufactured or fabricated from scrap steel of unknown chemical composition or physical properties.
 - .5 Hot dip galvanize bolts, anchor bolts, nuts, washers, pip sleeves, steel plates, rungs, holdfasts U-bolts and any

other miscellaneous steel to CSA G164
with minimum zinc coating of 600 g/m².

PART 3 - EXECUTION

- 3.1 Mooring Cleats
- .1 Install mooring cleats as shown on drawings and fasten to concrete deck and curb using anchor bolts as indicated. Allow for 25 mm of grout under base.
 - .2 Do not make alternations to any components without written permission of *Departmental Representative*.
- 3.2 Fenders
- .1 Fasten treated fenders to floating wharves and to wheelguard with machine bolts.
 - .2 Bevel top of each fender to 4 horizontal to 1 vertical, and bottom of each is to extend 300 mm below chart datum. Treat tops per **Section 06 05 73**.
 - .3 Countersink bolts on exterior face of fenders.
- 3.3 Gangway Installation
- .1 Reuse existing access ramps and install existing units in locations shown on plan or as indicated by *Departmental Representative*.
 - .2 Do not make alternations to any components without written permission of *Departmental Representative*.
- 3.4 Floating Wharves
- .1 Supply floating wharf as shown on plan or as indicated by *Departmental Representative*.
 - .2 Do not make alternations to any components without written permission of *Departmental Representative*.
 - .3 Installation of anti-slip material on the deck of floats considered incidental to the work and will not be paid for separately.

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| 3.6 | <u>Bouyancy Billets</u> | .1 | Float Billets formed from expanded Polystyrene Type II foam. |
| | | .2 | Billets to be coated with Poly Urethane Plastic Coating 1.27mm (50 mil) thickness. |
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| 3.7 | Installation <u>General</u> | .1 | 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. |
| | | .2 | 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. |