

## **PART 1 - GENERAL**

### **1.1 DESCRIPTION**

- .1 This section specifies requirements for the supply and installation of vertical D-D bore fenders.

### **1.2 DIMENSIONS**

- .1 Check existing site dimensions and report discrepancies to Departmental Representative before commencing work.

### **1.3 SHOP DRAWINGS**

- .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.

### **1.4 MEASUREMENT FOR PAYMENT**

- .1 The supply and installation of vertical D-D bore fenders will be measured by the linear metre (LM) of fender supplied and secured in the work. Include all related costs in the unit price, including but not limited to, bolts, plates, angles, galvanizing, fenders and all related materials.

## **PART 2 - PRODUCTS**

### **2.1 VERTICAL D-D BORE FENDERS**

- .1 250 X 250 mm "D" shaped D-D bore rubber fenders of following specifications:
  - .1 Energy Absorbing Capacity: Minimum of 0.570 ton-meters (+/- 10%) at rated deflection (40%).
  - .2 Reaction: Maximum of 12 ton (+/- 10%) at specified energy.
  - .3 Energy and reaction curves/charts for each type of fender shall be obtained from direct results of full scale testing and no corrections applied.
  - .4 Standard of Acceptance: D-D bore fender by Maritime International or approved equal.
- .2 Miscellaneous Steel and Fastenings:
  - .1 Lag screws: to CSA B34 and galvanized. Lag screw washers will conform to CSA B191.
  - .2 Steel Plates: to CSA G40.21-M97 Grade 300 W galvanized.
  - .3 Galvanizing: to ASTM A123/A123M-09 Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

**PART 3 - EXECUTION**

**3.1 PREPARATION**

- .1 Install vertical D-bore fenders in locations and to details shown on drawings.
- .2 Rubber fenders shall be installed in strict accordance with manufacturer's recommendations.
- .3 Attached fenders to new cribwork with four (4) equally spaced 29 mm diameter (minimum) galvanized lag screws on flat bar (galvanized).