

**ITEM 10593.03 M – BATTER PLATE SUPPORT BLOCK**  
**ITEM 10593.04 M – BATTER PLATE FENDER**

**DESCRIPTION**

This work shall consist of furnishing and installing a laminated rubberized fender system on the pre-cast bascule piers and dolphins at the line and grade indicated on the Contract Plans. The laminated rubberized fender system shall consist of support blocks mechanically fastened to the pier, and flat, plate fender fastened to the support blocks.

**MATERIALS**

Rubber Sections. The laminated rubber sections for the support blocks and the plate fender shall be steel wire reinforced sections compressed onto steel supporting rods. All resilient rubber material for the fenders shall be manufactured from fabric reinforced truck tires meeting the requirements of IRHD ASTM D1415 values of  $60 \pm 5$ . The rubberized fender elements shall be cut to the specific size required and compressed onto the steel supporting rods attached with nuts to end plates.

Internal and External Steel. All steel used in the fabrication of the fender system shall meet the requirements of the New York State Construction Manual and the appropriate sections of the New York State Standard Specifications. All steel shall be hot dip galvanized prior to compression within the rubber or prior to installation within the fender system.

Fasteners. All fasteners shall be High Strength A325 bolts meeting the requirements of Section 715-14 of the Standard Specifications. All bolts, nuts and washers shall be hot dip galvanized prior to installation within the fender system.

Concrete Inserts. Concrete inserts used to connect the support blocks to the pier shall meet the industrial standards for their intended application and shall be compatible with the high strength bolts used for the connection. All inserts shall be hot dip galvanized.

**CONSTRUCTION DETAILS**

General. Prior to fabricating the rubberized fender system components, the Contractor shall submit to the Engineer for approval, detailed shop drawings of the components and a detailed description of the manufacturing process.

Sampling and inspection shall be done by an accredited representative of the Department. The Inspector shall have the power to take samples of the material for analysis and to reject those materials that do not fulfill the requirements of these specifications as to either quality or workmanship. The acceptance of any materials by the Inspector shall not be a bar to their subsequent rejection if found defective. The Contractor shall furnish all facilities and equipment for inspection and testing of materials and workmanship and the Inspector shall be allowed free access to all premises where inspections can be made.

Fabrication. The support blocks and plate fender shall be fabricated to the dimensions shown on the Contract Plans. Where a section of plate fender is required to be either bent or curved, that section shall be fabricated to the proper angle or radius in the shop. Curved or bent plate fender sections shall be pre-erected in the shop to the appropriate support blocks in order to assure proper fit. The Department's Inspector shall approve any erected sections prior to dismantling and shipping of the sections to the job site.

**ITEM 10593.03 M – BATTER PLATE SUPPORT BLOCK**  
**ITEM 10593.04 M – BATTER PLATE FENDER**

The fender system shall be fabricated to withstand a load of 670 kN/meter with a deflection not to exceed 100 mm. The total projection of the support blocks and the plate fender from the front face of the pre-cast pier or dolphin shall not exceed 0.5 meters or be less than 0.3 meters.

Erection. Rubberized fender system shall be installed or erected as shown on the Contract Plans or as specified by the Engineer.

Support blocks shall be attached to the pier or dolphin using high strength bolts in concrete inserts. All inserts shall be cast directly in the cast in place concrete pier or during the manufacturing of the pre-cast dolphin. The Contractor may submit an alternate connection method for approval of the Engineer prior to the casting of the pier or dolphin. Any change in the method of connection shall be at no additional cost to the State.

Any galvanized surfaces damaged during erection shall be repaired in accordance with Section 719-01 of the Standard Specifications.

**METHOD OF MEASUREMENT**

Support Blocks. Payment will be made at the unit price bid for each batter plate support block furnished and placed as shown on the Contract Plans and in accordance with the specifications.

Plate Fender. Batter plate fender will be measured as the number of square meters measured on the vertical plane of the exposed surface of the plate fender incorporated into the work.

**BASIS OF PAYMENT**

Support Blocks. The unit price bid for support blocks for the batter plate fender shall include the cost of furnishing all labor, equipment and materials necessary to fabricate, ship and install the support block to its proper line and grade. No additional payment will be made for furnishing curved support blocks or concrete inserts in the pre-cast pier or dolphin.

Plate Fender. The unit price bid per square meter for the batter plate fender shall include the cost of furnishing all labor, equipment and materials necessary to fabricate, ship and install the plate fender to the proper line and grade. No additional payment will be made for furnishing curved or bent sections of the plate fender.