

**ITEM 10564.90nn M - INSTALLATION OF PRE-FABRICATED
STRUCTURAL
STEEL BRIDGE MEMBERS**

DESCRIPTION. Under this work, the Contractor shall erect structural steel, bolts and other metal parts as shown on the plans and in accordance with the provisions of the contract documents.

MATERIALS. Materials for this work shall meet the requirements of the New York State Steel Construction Manual and the following subsections of §700 – Materials:

Paint as Specified	708
High Strength Bolts, Nuts and Washers	715-14
Painting Procedures	740

CONSTRUCTION DETAILS.

The pre-fabricated structural steel bridge members for this contract, provided by the NYSDOT, will be delivered to job site by the Fabricator and shall be erected by the Contractor.

The Contractor is to unload all shipped structural steel from the Fabricator's transportation vehicles when delivered to the site.

All structural steel work, including, but not limited to transportation, and erection shall be done in accordance with the provisions of the SCM.

METHOD OF MEASUREMENT.

Kilogram. Measurement will be made on a kilogram basis. For the purpose of measurement, such items as castings, bolts, forgings, fasteners, cable and other metal parts used in the construction shall, unless otherwise provided, be considered to be structural steel even if made of other materials.

- A. Payment Mass.** Payment will be based on the computed mass of metal as shown on the steel-procurement contract record drawings, and shall include permanent bolts and welds in the structure as erected. The mass of all erection materials including but not limited to temporary bolts, pilot and driving nuts, temporary protective coatings, and all boxes, crates or other containers used for packing, together with sills, struts, and rods used for supporting members during transportation, shall be excluded.
- B. Computed Mass.** The mass of steel shall be as 7850 kg/m³. The mass of cast iron shall be assumed as 7210 kg/m³.

The mass of fillet welds shall be computed from the following:

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STEEL BRIDGE MEMBERS (Continued)

MASS OF DEPOSITED METAL PER METER OF FILLET WELD

<i>Size of Fillet (mm)</i>	<i>Deposited Metal (kg/m)</i>
5	0.139
6	0.200
8	0.365
10	0.516
12	0.705
16	1.088
20	1.747

The masses of castings shall be computed from the dimensions shown on the approved shop drawings, with an addition of 10% for fillets and overrun.

The mass of high-strength bolts, nuts and washers, exclusive of grip, shall be computed from the following:

MASSES OF HIGH-STRENGTH BOLTS

<i>Bolt Diameter (mm)</i>	<i>Mass of 100 Bolts with Nut and 2 Washers exclusive of grips (kg)</i>
13	10.8
16	16.3
20	28.7
22	38.8
24	51.4
27	71.6
30	91.7
36	143.0

BASIS OF PAYMENT.

General. The price bid shall include the cost of furnishing all labor, materials, bolts and equipment necessary to complete the work.

Additional Work. Items that are included in the price bid and are the Contractor's responsibility are as follows:

Inspection of Bolted Connections. All labor and equipment necessary for the performance of inspection of bolt tightness during structural steel erection shall be provided by the Contractor and included in the price bid for this item. The State shall witness the bolt testing, but will not provide equipment or labor.