

ITEM 15587.0501 M - STEEL BRIDGE RAILING REPLACEMENT CLAMP

DESCRIPTION: This work shall consist of removal and disposal of existing bridge railing clamps and installation of replacement clamps.

MATERIALS: Materials used for this work shall conform to the requirements listed below:

- A. Rail Clamp - ASTM Designation A500 M Grade B; A-36 M; A-588 M; or A-572 M Grade 345
- B. Bolts, Nuts, and Washers - ASTM Designation A-325 M, Type I or Type III
- C. All parts of the clamp and connection assembly shall be galvanized after fabrication in accordance with Material Specification 719-01.
- D. All bolts shall have a Class 2A thread fit prior to galvanizing. Nuts to have standard oversize tap to allow for galvanizing.
- E. All Damage to the galvanizing, either on the clamp, connection assembly, or tube, shall be repaired according to the provisions of Material Specification 719-01.
- F. Shims. Shims, if used, shall conform to the following requirements:
 - 1. Steel - ASTM A 36 M
 - 2. Length - 62 ± 6 mm
 - 3. Width - 18 ± 2 mm
 - 4. Thickness - 6 mm min.

CONSTRUCTION DETAILS: Replacement clamps shall be new. They shall be the size and dimensions shown on the Contract Plans.

The existing bridge rail clamp shall be carefully removed in a manner satisfactory to the Engineer so as not to damage hardware that is to remain.

All welding shall conform to the requirements of the N.Y.S. Department of Transportation Steel Construction Manual.

All components of the existing bridge railing system which are damaged due to the Contractor's operation shall be repaired or replaced to the satisfaction of the Engineer at no cost to the State. Such damaged material shall be repaired or replaced according to the provisions of Section 568 - "Bridge and Culvert Railing."

At no time shall the bridge rail tubes be removed from the posts unless maintenance and protection of traffic, acceptable to the Engineer, is provided.

Whenever the railing does not fit tightly to the post, due to the location of the connection angle, or place,

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it will be necessary to weld shims to the post to provide a tight fit between rails and posts.

Shims shall be sealed welded in the proper location by means of a 12 mm weld on each side of the shim. If more than one shim is required at a given location, then shims shall be welded together by means of a 12 mm seal weld on either side of the interface between shims. All welding work shall be done in accordance with the requirements of the N.Y.S. Steel Construction manual.

All welding locations, and shims, shall be wire brush cleaned, or otherwise cleaned in a manner satisfactory to the Engineer, after welding is completed. The galvanizing shall then be repaired, and the shim painted, in accordance with the requirements of 719-01.

It is the Contractor's responsibility to determine the number of locations requiring shimming. No additional payment will be made for shimming work.

Upon the completion of clamp replacement work, the bridge railing shall conform to the original line and elevation unless otherwise ordered by the Engineer.

During non-working hours, all bridge railing tube shall be securely fastened to the existing posts in a manner acceptable to the Engineer.

METHOD OF MEASUREMENT: Measurement will be made as the number of railing clamps replaced. No deduction shall be made for missing clamps.

BASIS OF PAYMENT: The unit price bid per clamp shall include the cost of furnishing all labor, materials, and equipment necessary to complete the work. Shimming, where necessary, shall be included as part of this work.

All maintenance and protection of traffic work shall be paid for under its' respective item.