

460 STRUCTURAL STEEL AND MISCELLANEOUS METALS.
(REV 5-7-01) (FA 10-23-01) (7-03)

SUBARTICLE 460-2.1 (Page 600) is deleted and the following substituted:

460-2.1 General: Meet the material requirements of Section 502 and Division III, with specific reference to Sections 961 through 964.

Except where otherwise shown in the plans, use structural steel for all major members, and rivet steel for all rivets. Use either cast steel or cast iron for castings, as shown in the plans.

Field install all shear connectors which are located on the top flange of steel girders and beams after the deck forms are in place. Do not install top flange shear connectors at the fabrication plant. Install all shear connectors, regardless of location, in accordance with Section 502.

For paint, meet the requirements of Section 971.

SUBARTICLE 460-2.3 (Page 601) is deleted and the following substituted:

460-2.3 Fabricator Qualifications: Fabricate structural steel girders and girder framing in a shop certified under the AISC Quality Certification for Major Steel Bridge. Fabricate steel pedestrian bridges in a shop certified under the AISC Quality Certification for Simple Steel Bridge. Perform fabrication and non-destructive testing in accordance with the current applicable edition of the ANSI/AASHTO/AWS D1.5 Bridge Welding Code. For tubular components, perform fabrication and non-destructive testing in accordance with AWS D1.1. Perform welding procedures and welder certifications in accordance with the applicable AWS welding code and submit the procedures and certifications to the Engineer for approval prior to performing any welding on the project.

SUBARTICLE 460-27.1 (Pages 614 and 615) is deleted and the following substituted:

460-27.1 General: Mark the weight on members weighing more than 3 tons [3 metric tons]. Pack bolts and rivets of one length and diameter, and loose nuts or washers of each size, separately. Ship pins, small parts, and small packages of bolts, rivets, washers, and nuts in boxes, crates, kegs, or barrels of convenient sizes. Plainly display a list and description of the contained material on the outside of each shipping container. Keep the weight of all tools and erection material separate.

The Engineer will allow metal die stamping in the fabrication of structural steel in conformance with the requirements specified herein. Do not use die stamps on fracture-critical members, or near the edges of plate members subject to tensile stresses. The Engineer will accept numbers, letters, or combinations thereof impressed into steel components for the purpose of identifying the fabricated member in lieu of paint, metal tags, or other methods of identification.

The Contractor may accomplish marking of fabricated structural steel as required herein and in 460-12.4 by the use of paint, attached metal tags, or low stress dies with blunt-nosed continuous or blunt-nosed interrupted dot die stamps (i.e., dies manufactured to produce impressions that are rounded at the bottom of the impression).

The maximum allowed depth of the impression is 1/32 or 0.031 inch [0.8 mm]. Use die stamping tools that make character sizes with corresponding face radii as shown in the following table:

Size of Steel Die Stamp Markings	
Character Size inch [mm]	Minimum Face Radii inch [mm]
0.125 [3]	0.007 [0.2]

Size of Steel Die Stamp Markings	
Character Size inch [mm]	Minimum Face Radii inch [mm]
0.1,875 [5]	0.004 [0.1]
0.250 [6]	0.010 [0.3]
0.3750 [10]	0.014 [0.4]
0.5000 [13]	0.020 [0.5]

In all cases, ensure that shop drawings submitted by the fabricator indicate proposed location of all low stress metal die stamping.

For bridge members, the Contractor may apply the low stress metal die stamping at the following locations:

(1) Girder field splices or beam ends:

- a. Outer fourth of top flange splice plates.
- b. Middle third of web splice plates.
- c. Outer half of girder flange bolt hole pattern at splice.
- d. Within 6 inches [150 mm] of bearing stiffeners in the top flange areas at end of

girder.

(2) Diaphragms:

- a. The preferred location is the middle portion of a top horizontal diaphragm

bracing member.

- b. In lieu of the above, the middle of the bottom horizontal diaphragm bracing

member.

(3) Other members: Clearly indicate the location on shop drawings submitted for

approval.

Make any marking to be done at the mill, as required by AASHTO M 160 (ASTM A 6) [AASHTO M 160M (ASTM A 6M)], in no more than one place on each piece. The Contractor may use die stamping, using low-stress blunt-nosed continuous or low-stress blunt-nosed interrupted dot steel dies.

ARTICLE 460-34 (Page 617) is expanded by the following:

Field install top flange shear connectors, at locations shown in the Contract Documents, in accordance with Section 502.

SUBARTICLE 460-38.8 (Page 619) is deleted and the following substituted:

460-38.8 Aluminum Railings: The quantity to be paid for will be the plan quantity, in feet [meters], of Aluminum Railings installed in accordance with the plans. The quantity shall be considered full compensation for all incidental materials, including anchor bolts, nuts, washers and resilient pads.