

heat number and the ASTM A 6 specification identification color code, if any, when separated from the full-size piece furnished by the supplier.

During fabrication, each piece of steel shall show clearly and legibly its specification identification color code and heat number. Individually marked pieces of steel which are used in furnished size, or reduced from furnished size only by end or edge trim, that does not disturb the heat number or color code or leave any usable piece, may be used without further color coding provided that the heat number and color code remains legible.

Pieces of steel which are to be cut to smaller size pieces shall, before cutting, be legibly marked with the ASTM A 6 specification identification color code and heat number.

Individual pieces of steel which are furnished in tagged lifts or bundles shall be marked with the ASTM A 6 specification identification color code and heat number immediately upon being removed from the bundle or lift. Pieces of steel which will be subject to fabricating operations such as blast cleaning, galvanizing, heating for forming, or other operations which might obliterate paint color code and heat number marking, shall be marked with steel stamps or by a substantial tag firmly attached or shall be approved by the QA Inspector for obliteration of material identify markings. Main material tested for CVN shall have heat numbers steel stamped into the material at locations acceptable to OSE.

The QCFS shall document by a cover letter documenting QCFS acceptance that material control is performed per specification.

863.11 Care of Material. Structural material shall be stored at the shop or field above the ground, upon platforms, skids or other supports. It shall be straight and have clean and dry surfaces before being worked in the shop. Any rusted or corroded material shall be cleaned prior to use and shall meet ASTM A 6 thickness tolerances after cleaning. The QCFS shall provide a cover letter documenting QCFS acceptance stating that care of material is performed per specification.

863.12 Workmanship and Straightening. If straightening of rolled material is necessary, it shall be done by methods that will not damage the member. When carefully planned and supervised, the application of localized heat is permitted for straightening. The temperature of the heated area shall not exceed 620° C (1150° F) as controlled by pyrometric stick or thermometers. Quenching to accelerate cooling is prohibited.

Fabricated structural steel shall be within the dimensional tolerances specified by Arts. 3.5 and 9.19 of the AASHTO/AWS Bridge Welding Code except where indicated otherwise in these specifications, and with the following additions: Waviness, the deviation of the top or bottom surface of a flange from a straight line or plan curvature, shall not exceed 3 mm (1/8 inch) when the number of waves in a 3.0 m (10 foot) length is four or less, or 1.6 mm (1/16 inch) when more than four, but sharp kinks or bends shall be cause for rejection. For the measurement of camber during lay down, the bearing points shall be relatively

positioned both horizontally and vertically to plan dimensions ± 3 mm ($\pm 1/8$ inch). Rolled beams shall be cambered as called for on the plans in the pre-qualified fabricating shop by use of heat or hydraulic jacks. Heating shall be controlled as specified above and follow a formal shop heating procedure. Plate girders shall be cambered by trimming web plates prior to assembly.

Camber shall be measured as the vertical offset between the steel and the common base line extending from abutment bearing to abutment bearing. The maximum camber tolerance at mid span shall be - 0 mm (in.) and the greater of + 19 mm (3/4 inch) or the designed haunch height. The maximum camber tolerance at mid span shall be prorated between the center of the span and each adjacent bearing to provide a smooth unbroken curve. The camber tolerances in Art. 3.5.1.3 of the AASHTO/ AWS Bridge Welding Code shall not apply.

During fabrication, shipping and erection, members shall be so supported and handled that camber is maintained.

The QCFS shall provide a cover letter documenting QCFS acceptance that workmanship and straightness are performed per specification.

863.13 Finish. Sheared edges of all main material shall be planed to a minimum depth of 6 mm (1/4 inch) except for ASTM A709 grade 36 material having a thickness of 16 mm (5/8 inch) or less. Burrs shall be removed. All fins, tears, slivers and burred or sharp edges that are present on any steel member shall be removed by grinding. If these conditions appear during the blasting operation, they shall be removed by grinding and the area re-blasted to the required surface profile.

Structural steel permitted by these specifications may be flame cut, provided a smooth surface free from cracks and notches is secured and provided that an accurate profile is secured by the use of a mechanical guide. Rolled and flame cut surfaces shall meet the requirements of the AASHTO/AWS Bridge Welding Code, as amended by Supplement 1011. The surface finish of bearing and base plates and other bearing surfaces that are in contact with each other or with concrete shall meet the ANSI surface roughness requirements as defined in ANSI B46.1, Surface Roughness, Waviness and Lay, Part I:

ANSI	
Steel slabs	50.0a m (2000)
Heavy plates in contact in shoes to be welded	25.0a m (1000)
Milled ends of compression members, milled or ground ends of stiffeners and fillers	12.5a m (500)
Bridge rollers and rockers	6.4a m (250)
Pins and pin holes	3.2a m (125)
Sliding bearings	3.2a m (125)