

**908.11 STEEL STRAND.** Steel strand shall conform to M 203, Grade 270, Low Relaxation Strand.

## SECTION 909 — METALS

**909.00 CERTIFICATION.** The metal producer shall furnish certification as specified in TC-1.02. The certification shall include actual mill test results. The chemical and physical properties of the finished metal products shall also be furnished by the processing manufacturer.

**909.01 STRUCTURAL STEEL.** Structural steel shall conform to the requirements specified in the Contract Documents. All primary load carrying members shall conform to the supplementary toughness requirements of M 270, Zone 2.

Primary load carrying members are as follows or as designated in the Contract Documents: Finger joint steel from which saw tooth configurations have been cut, all stringers, cover plates, bearing stiffeners, splice plates, pins and pin links for straight rolled steel beam bridges; all flanges, webs, bearing stiffeners, splice plates, pins and pin links for straight steel girder bridges. Additionally, on curved rolled steel beam and steel girder bridges; all diaphragms, cross frames, lateral bracing, including connection plates to main stringers.

**909.02 STEEL FOR MISCELLANEOUS USE.** Steel for miscellaneous use shall conform to A 36 or A 709, Grade 36.

**909.03 WELDING MATERIALS.** Welding materials shall conform to AASHTO AWS D1.5.

**909.04 GRAY IRON CASTINGS.** Iron castings shall conform to A 48, Class 30B.

**909.05 STEEL STUD SHEAR DEVELOPERS.** Shear developers shall conform to AASHTO AWS D1.5.

**909.06 BOLTS, NUTS AND WASHERS FOR GENERAL USE.** Bolts, nuts and washers for general use shall conform to A 307, and shall be galvanized as specified in A 153. Anchor bolts shall be galvanized and shall conform to A 709, Grade 36.

**909.07 HIGH STRENGTH BOLTS, NUTS AND WASHERS.** High strength bolts, nuts and washers shall conform to A 325.

**909.08 Anchor Bolts for Traffic Signals, Highway Lighting, and Signs.** Anchor bolts for traffic signals, highway lighting, and signs shall conform to F 1554, Grade 55 S1. Anchor bolts shall be galvanized for the full length of the threads and 3 in. below the threads in conformance with A 153. Nuts shall be hex nuts conforming to A 194, Grade 2H or A 563 Gr DH. Flat washers shall be heavy washers conforming to F 436. All hardware shall be galvanized in conformance with A 153.

**909.09 CAST WASHERS.** Cast washers, ogee washers, and special cast washers shall conform to A 47. Cast washers shall be hot dip galvanized. The coating shall conform to the thickness, adherence, and quality requirements of A 153.

**909.10 HARDWARE.** Spikes, wood screws, staples, brads, lag screws, carriage bolts, and other parts under the general heading of HARDWARE shall be composed of carbon steel and shall conform to Federal Specification FF-N-105.

**909.11 STEEL FORMS.** Steel bridge deck forms and deck form supports which remain in place shall be fabricated from steel conforming to A 653, Designation SS, Grades 33 through 80, Coating Designation G 165. The minimum thickness of uncoated steel shall be 0.0359 in.

## SECTION 910 — BEARINGS

**910.00 CERTIFICATION.** The bearing producer shall furnish certification as specified in TC-1.02. The certification shall include actual mill test results. The chemical and physical properties of the finished bearings shall also be furnished by the processing manufacturer.

**910.01 BRONZE OR COPPER ALLOY BEARING AND EXPANSION PLATES.** Bronze or copper alloy plates shall be either of cast bronze or rolled copper alloy.

**910.01.01 Cast Bronze.** Cast bronze bearing and expansion plates shall conform to B 22, Alloy No. 91100 or No. 91300.

Self-lubricating bronze bearing plates shall be an article of standard production by an approved manufacturer of such equipment. They shall be provided with trepanned recesses (not grooves) that shall be filled with a lubricating compound consisting of graphite and metallic substances with a lubricating binder capable of withstanding the atmospheric elements. The lubrication compound shall be compressed into the recesses by pressure to form dense, nonplastic lubricating inserts. The