711-B-195 STRUCTURAL STEEL, GENERAL

(Revised 03-15-12)

The Standard Specifications are revised as follows:

SECTION 711, BEGIN LINE 116, DELETE AND INSERT AS FOLLOWS:

711.08 Mill Test Reports

~~Prior to, or concurrent with, the fabrication, a~~*A* copy of ~~the~~*all* mill test report*s for all steel on hand that is to be used to fabricate structural steel members* shall be furnished *prior to the start of fabrication. For steel not on hand when fabrication is started that arrives during fabrication, a copy of the mill test reports for that steel shall be provided within 24 h of receipt of the steel. If copies of mill test reports are not provided within the specified timeframe, the Engineer may suspend the fabrication of all structural steel members until such time that copies of the missing mill test reports are provided. Delays due to suspension of fabrication will be considered non-excusable.* If the manufacturer's mill test reports are not available, tests shall be made with no additional payment, and 4 certified copies of such tests shall be furnished. Four copies of an affidavit shall be furnished which shall state that the materials to be used for members not designated for calculated stress and not to be marked in accordance with ASTM A 6 ~~(ASTM A 6M)~~, Article 9, are in accordance with the requirements of the specifications for the materials as shown on the plans. The fabricator shall have on file the mill test reports for the material from which these members were obtained.

SECTION 711, BEGIN LINE 402, DELETE AND INSERT AS FOLLOWS:

711.32 Welds

Welding of steel shall be done only as shown on the plans or as specified and only with specific approval. Welding may be done to remedy minor defects, if approved. No temporary or permanent welds, if not shown on the plans or otherwise specified, shall be made without specific written authorization.

(a) AWS Requirements

Welding of ~~steel structures, when authorized, shall be performed in accordance with the following AWS Specifications~~*steel bridges and bridge components shall be performed in accordance with AASHTO/AWS D1.5 Bridge Welding Code, hereinafter referred to as the Bridge Welding Code. Welders, welder operators, and tack welders shall be qualified in accordance with Bridge Welding Code Chapter 5 Part B.*

~~A5.1 Mild Steel Covered Arc-Welding Electrodes.~~
~~A5.5 Low-Alloy Steel Covered Arc-Welding Electrodes.~~
~~A5.17 Bare Mild Steel Electrodes and Fluxes for Submerged Arc Welding.~~
~~A5.18 Mild Steel Electrodes for Gas Metal-Arc Welding.~~
~~A5.20 Mild Steel Electrodes for Flux-Cored Arc Welding.~~
~~D1.5 (AASHTO/AWS) Bridge Welding Code.~~

~~Welders, welder operators, and tack welders shall be qualified in accordance with AWS D1.5 Chapter 5 Part B.~~

When welding steel structural or steel non-structural tubing or steel structural supports for highway signs, luminaires, or traffic signals, it shall be performed in

accordance with AWS D1.1 Structural Welding Code – Steel, hereinafter referred to as AWS D1.1. Welders, welder operators, and tack welders shall be qualified in accordance with AWS D1.1 Chapter 4 Part C.

~~**(b) Edge Blocks**~~

~~Edge blocks shall be used when radiographing flange butt shop welds of greater than 1/2 in. (13 mm) thickness. The edge blocks shall have the dimensions shown on the plans. The edge block shall be centered on the weld with a snug fit against the plate being radiographed, with the maximum gap shown on the plans. Edge blocks shall not be tack welded. Edge blocks shall be made of radiographically clean steel. The surface shall have an ANSI finish of 0.125 mil (3 µm) or smoother.~~

~~Field welding shall be in accordance with the requirements herein, except where welded connections do not carry calculated stresses. Magnetic particle inspection will not be required, so ANSI/AASHTO/AWS D1.5-88 Table 4.4 "Minimum Preheat and Interpass Temperature" as it refers to thicknesses to 3/4 in. (19 mm) inclusive, shall read "None". Electrodes with a low hydrogen classification will not be required.~~

(~~c~~*b*) Welding of High Performance Steel

All welding on high performance steel shall be in accordance with the ~~ANSI/AASHTO/AWS D1.5M/D1.5 Bridge Welding Code, hereinafter referred to as the~~ Bridge Welding Code, except as modified herein and by the AASHTO Guide Specification~~s~~ for Highway Bridge Fabrication with HPS 70W Steel, an addendum to the ~~2002 Edition of the~~ Bridge Welding Code*, hereinafter referred to as the Guide*.

Only submerged arc welding, SAW, and shielded metal arc welding, SMAW, processes will be permitted. Consumable handling requirements shall be in accordance with the Bridge Welding Code, Section*s* 12.6.5 and 12.6.6, when using reduced preheat as described in Table 3 of the Guide, except that SAW consumables for matching weld metal shall meet the hydrogen control level of H4 in accordance with Section 12, Article 12.6.2. Consumable handling requirements shall meet the provisions of ~~T~~*t*he Bridge Welding Code, Section 4, when using the preheat requirements ~~of Table 4.4~~*contained in Section 4*, except that the diffusible hydrogen level must never exceed H8. SMAW consumables may meet diffusible hydrogen levels of either H4 or H8 except the higher preheat and interpass temperatures as noted in Table 3 of the ~~AASHTO~~ Guide ~~Specifications for Highway Bridge Fabrication with HPS 70W Steel~~ shall apply to H8 conditions.

SECTION 711, BEGIN LINE 520, INSERT AS FOLLOWS:

(c) Field Welding

Field welding shall be by the shielded metal arc welding, SMAW, process and shall be in accordance with the requirements herein. Magnetic particle testing will not be required on welded connections that do not carry calculated stresses. All field welding shall be preheated in accordance with Section 4 of the Bridge Welding Code. The Contractor shall provide a copy of the minimum preheat and interpass temperature table to the Engineer prior to beginning welding. Electrodes with a low hydrogen classification shall be used.

SECTION 711, BEGIN LINE 1226, INSERT AS FOLLOWS:

The cost of drilling holes for anchor bolts, elastomeric bearings, bridge bearing pads, fabrication, *painting*, erecting falsework, welding material, Charpy V-Notch toughness tests, and necessary incidentals shall be included in the cost of the pay items in this section.