

### **Section 11 Welding**

- 4-1101 General**
- 4-1102 Before Work Begins**
- 4-1103 During the Course of Work**
- 4-1104 Level of Inspection**
- 4-1105 Payment**



### Section 11 Welding

#### 4-1101 General

Section 11, "Welding," of the *Standard Specifications* describes the requirements for welding where welding is specified to comply with an American Welding Society welding code. A primary purpose of this section is to assure quality control for welding items of work. Other sections also cover welding requirements such as Sections 48, "Temporary Structures"; 49, "Piling"; 52, "Reinforcement"; 55, "Steel Structures"; 56, "Overhead Sign Structures, Standards, and Poles"; and 60, "Existing Structures," of the *Standard Specifications*.

This manual section provides guidance for inspecting and monitoring the contractor's quality control activities involving welding that must meet the requirements of Section 11 of the *Standard Specifications*. The activities include handling correspondence, submittals, reports, quality control plans and records, and certificates of compliance, along with sampling, testing, and inspection of work in progress.

For details about welding, refer to Engineering Service's *Bridge Construction Records and Procedures* manual at:

<https://dot.ca.gov/programs/engineering-services/manuals>

#### 4-1102 Before Work Begins

Before work begins, take the following steps:

- Ensure that the contractor has assigned a qualified quality control manager and inspection personnel.
- Meet with the welding quality control personnel to discuss the requirements for submitting welding quality control plans.
- Inform the welding quality control personnel that their quality control activities may at times need to be coordinated with Caltrans' ongoing quality verification activities, as described throughout this manual.

#### 4-1103 During the Course of Work

During the course of work do the following:

- Verify that the required quality control personnel perform duties as specified. Ensure that correspondence, submittals, reports, quality control plans and records, and certificates of compliance are handled as specified.
- Until the engineer, typically the structures representative, authorizes the proper submittals, do not permit welding of any type on materials permanently incorporated in the work. Refer to the *Bridge Construction Records and Procedures* manual, Vol. 2, Section 180, for guidelines

- Ensure that the contractor submits the time and location of quality control sampling and testing with sufficient notice to allow Caltrans staff to intermittently witness quality control sampling and testing.
- Ensure that welding follows the authorized Welding Quality Control Plan and is carried out by certified welders.
- Ensure that appropriate nondestructive testing is done by certified welding inspectors and testing inspectors to Caltrans' standards and in a timely manner.
- Refer to Chapter 6, "Sampling and Testing," of this manual for additional guidance in ensuring materials and workmanship comply with specifications.

#### **4-1104 Level of Inspection**

Suggested level of inspection for welding work activities is intermittent inspection.

#### **4-1105 Payment**

For measurement and payment details, review contract specifications.