
AISC Certification Program for Bridge and Highway Metal Component Manufacturers

Standard for Bridge and Highway Metal Component Manufacturers—2008

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1. Purpose

The purpose of the AISC Certification Program for Bridge and Highway Metal Component Manufacturers is to confirm to *owners*, the design community and the construction industry that a certified *manufacturing* firm has the personnel, organization, experience, procedures, knowledge, equipment and commitment to produce *components* of the quality required for normal bridge and highway construction.

2. Scope

This Certification Standard for Bridge and Highway Metal Component Manufacturers offers assistance to manufacturing and transportation professionals and to *owners* in assessing *manufacturers'* capability to satisfy *component* quality needs. Users of this *standard* should verify the *manufacturer's* capacity independently.

The *standard* describes certification requirements for facilities that *manufacture* and supply specific *components* composed primarily of metal to bridge and highway construction projects. These facilities have *quality management systems* with defined functions and responsibilities. The scope of this certification does not include installation, or erection of the *components*.

Certification to this *standard* is appropriate for *manufacturers* of *components* that include bracing not designed for primary loads (diaphragms, cross frames and lateral bracing); camera, light, sign and signal support structures; bridge rail; stairs; walkways; grid decks; drains; scuppers; expansion joints; bearings; ballast plates; and mechanical movable bridge equipment. *Manufacturers* of camera, light, sign and signal support structures; high mast light towers; bridge rail; complex expansion joints; high load multi-rotational (HLMR) bearings; and mechanical movable bridge equipment shall also be required to meet specific supplemental requirements to this *standard*.

The *quality management system* of these *manufacturing* facilities (not products) is certified. The certification should not be interpreted as a product inspection of *components*. Certification includes all functions of *manufacturing* and providing *components* from receipt of contract through final delivery. To maintain certification status, the *manufacturer* shall follow its *quality management system*, regardless of whether the requirement for this certification is in *contract documents*, and shall supply and be responsible for the entire *component*.

The certification program is open to all *manufacturers* of *components* covered by this *standard*, regardless of size and regardless of AISC membership status.

3. References

The *manufacturer* shall have the reference documents and standards necessary for existing contracts readily available to those who need them.

The *manufacturer* shall have the latest editions available and be able to demonstrate the ability to work to and meet the requirements of:

- AISC *Selected ASTM Standards for Structural Steel Fabrication*
- AASHTO/ASTM standards applicable to the *component manufacturers* product and/or *contract documents* (for verification purposes)
- AWS D1.1 *Structural Welding Code – Steel*, AWS D1.2 *Structural Welding Code – Aluminum*, or AASHTO/AWS D1.5 *Bridge Welding Code*. (Welding codes shall be applicable to *manufacturer's* product and *contract documents*. At least one welding code shall be available.)
- AWS A2.4 *Symbols*
- AWS A3.0 *Terms and Definitions*
- AISC *Code of Standard Practice for Steel Buildings and Bridges*¹
- SSPC Steel Structures Painting Manual, Volume I, Good Painting Practice
- SSPC Steel Structures Painting Manual, Volume II, Systems and Specifications
- *Owners' specifications* for all projects in progress or proposed.

4. Definitions

The following terms are *italicized* where used in this *standard* to alert the user that the term is defined in this section. As used in this *standard*, the words **shall** or **will** denote a mandatory requirement. The word **should** denotes a guideline or recommendation. The word **may** denotes an opportunity to make a choice.

AISC. American Institute of Steel Construction—the certifying body.

ASTM. American Society for Testing and Materials.

AWS. American Welding Society.

Assembly. Two or more *components* joined to make a part or product that can be the final item or that join to other *components*. Joining methods include welding, bolting, pressure fit, molding, and adhesion.

C of C. Certificate of Compliance or Certificate of Conformance.

¹An electronic PDF version of this reference may be downloaded free from www.aisc.org/freepubs.

Checker. A person in a *detailing* organization who, because of experience and ability, has advanced successfully to a position of responsibility with the ability to perform the final verification of *shop drawings* without direct supervision.

Checking (of shop and installation drawings). A detailed review of all diagrams and dimensions on *shop and installation drawings* by a qualified *checker* other than the original *detailler*. Checking will compare the drawings to contract documents and applicable references. Issues to review include, but are not limited to:

- Geometry
- Correct connections
- Proper notes
- Proper material usage
- Assignment of complete welding symbols
- Proper coatings and preparation
- Proper depiction and notation of instructions and details necessary for field installation.

Coating. Coatings may include paint, powder coatings, galvanizing, metalizing, Teflon and electro-deposited metals.

Component. A bridge or transportation related item that *contract documents* stipulate to be obtained from an AISC Certified Bridge and Highway Metal Component Manufacturer and that is not covered by either the AISC Simple Bridge or AISC Major Bridge Fabricator Certifications. A *component* may be entirely produced by the *manufacturer*, or comprised of subassemblies and parts from *subcontractors* and *suppliers*, assembled by the *manufacturer*. A finished *component* may ship as a single piece or multiple elements, and may require field assembly or adjustment, based upon installation instructions provided by the *manufacturer*.

Contract Documents. The documents that define the responsibilities of the parties that are involved in *manufacturing* and installing of *components*. These documents normally include the *design drawings*, the *specifications* and the contract.

Corrective Action. The action or actions undertaken to identify and eliminate the root cause of a product or process *nonconformance* to prevent its recurrence. Corrective action is not the repair or rework of an identified nonconforming product or process to meet specified requirements.

Customer. Entity (potentially the general contractor, specialty contractor, *owner*) contracting with the *manufacturer* for *manufactured components*.

Design Drawings. The graphic and accompanying narrative portions of the *contract documents* showing the design, location and dimensions of the work. These documents generally include: plans, elevations, sections, details, schedules, diagrams and notes.

Detailler. Person who performs the function of *detailing*.

Detailing. The function that produces *shop and installation drawings* from *contract documents*.

Documented Procedure (quality management system procedure). A procedure that is established, documented, implemented, and maintained. The documentation provides information about how to perform the activity or process consistently. Documentation can include written instructions, drawings, diagrams, charts, specifications, and references or excerpts of appropriate technical standards and codes. Documentation shall contain:

- The purpose of the procedure
- Process definition that includes steps required for completion
- Assignment of responsibility for completion
- Assignment of responsibility for review of the procedure
- Identification of the records that are generated.

Documented Training. Training in which there is a record of the course outline, a record of who attended, the date it was given, and the instructor who provided the training.

Element. A primary section of this *standard* as shown in the Table of Contents.

Engineer of Record. The licensed professional who is responsible for sealing the *contract documents*, which indicate that he or she has performed or supervised the analysis, design and document preparation for the structure and has knowledge of the load-carrying structural system.

Executive Management. The *manufacturer's* chief executive officer, president or individuals responsible for overseeing the *quality management system*. Executive management has full authority in final decision-making for all aspects of the *quality management system*.

Installation Drawings. Field-installation or member-placement drawings that are prepared by the *manufacturer* to show the location and attachment of the individual *manufactured components*.

Manufacture (manufacturing, manufactured). The process of designing, producing, testing, and assembling *components* by the *manufacturer*.

Manufacturer. The entity that manufactures *components*. In the context of this document, the manufacturer is the entity being certified.

MTR. Material Manufacturer's Test Report as described in Section 14 of ASTM A6.

Nonconformance. Attribute(s) of materials, consumables, *manufactured product* (in process or final), and processes not meeting contract, regulatory, or *manufacturer* defined requirements.