

1004 STRUCTURAL METALS

Most structural metals are accepted on the basis of certificates of compliance and certificates of analysis.

The metal fabricator is generally the party responsible for forwarding to the Contractor (or supplier) the required mill certifications covering the base metal and any treatment prior to fabrication.

The number of certifications needed depends on how many processes/companies the metal passed through before being delivered as the final product.

Each item is to be considered separately to determine what certifications are needed.

As a minimum, all structural metals are certified in accordance with the following:

1. The manufacture of the base metal will include a chemical analysis of the metal, a statement that it was manufactured according to a given specification (ASTM, AASHTO, etc.), and a description of the pieces represented by the certificate.
 - A. The chemical analysis applies to a heat, not to individual finished pieces. A heat is a quantity of metal that is processed at one time from which individual pieces are made. When the metal is shipped, the manufacturer marks or tags the pieces with the heat number. If everyone keeps their records in order, a piece of metal can be traced reasonably well back to the heat from which it was made.
 - B. The manufacturer's certification also assures the individual pieces were made to comply with the specification in regard to allowable variations in dimensions and finish.
2. Any coating or special treatment such as galvanizing or heat treatment must be certified. The coating or treatment may be done by the manufacturer, an intermediate processor, or the final fabricator. Whoever does the work is the one who must certify it.
3. The fabricator who produces the final product certifies that the materials he used are the same as the materials represented by the certifications in #1 and #2 above and that his fabrication process complied with the Standard Specifications. The Standard Specifications cited in the contract are to be referred to individually. A generalized statement such as "meets ADOT requirements" is not acceptable.
 - A. The certification covers all the fabrication process including bending, machining, welding, heating, painting, etc.
 - B. The fabricator is responsible for securing all the certifications from the manufacturers and processors and relating them to the material he has fabricated.

Structural elements are sometimes inspected at the fabrication plant by the Bridge Group, other agencies, or consultants. A copy of the inspection report must be in the project file before structural elements are accepted. Additional discussion of steel structures is found in Section 604.