

Steel Quiz, a monthly feature in *Modern Steel Construction*, allows you to test your knowledge of steel design and construction. All references to LRFD specifications pertain to the 1999 *LRFD Specification for Structural Steel Buildings*, available as a free download at www.aisc.org. ASD references pertain to the 1989 *ASD Specification for Structural Steel Buildings*. Where appropriate, other industry standards are also referenced.

If you or your firm are interested in submitting a *Steel Quiz* question or column, contact:


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This month's *Steel Quiz* was created by the Steel Solutions Center at AISC. All of the questions and

answers to the quiz have been taken from the latest *Code of Standard Practice for Steel Buildings and Bridges* (dated March 7, 2000 and available for free download at www.aisc.org/code.html). This document will be referred to as the "Code" in this month's questions and answers.

QUESTIONS

1. What does it mean in *Code* section 1.1 that "in the absence of instructions to the contrary..."
2. Where is Architecturally Exposed Structural Steel (AESS) addressed?
3. Who is responsible for the means, methods, and safety of erection of a structural steel frame?
4. When discrepancies are found between the structural design drawings and the electrical or

mechanical design drawings, which drawings should govern?

5. Who is responsible for grouting base plates?
6. Regarding erection tolerances, where is the working point of a wide flange beam generally taken?
7. Is the erector responsible for the painting of field-installed bolts and nuts or field welds?
8. What are the fabrication tolerances for camber of beams less than 50 feet in length?
9. Is "14 days" realistic for portal-to-portal review of shop and erection drawings?
10. When does the fabricator generally order mill materials?

ANSWERS

1. The AISC *Code* is not life-safety related, but rather is intended to form the basis of the most efficient process for the buying and selling of structural steel. "In the absence..." allows for deviations from the *Code* at the discretion of the specifier. Just keep in mind that deviations will normally have a schedule or cost impact.
2. Provisions for using AESS are found in Section 10 of the *Code*.
3. Per Section 1.8.1 of the *Code*, the erector is responsible for these items.
4. When discrepancies are discovered, Section 3.3 of the *Code* requires that they be reported for resolution. However, if discrepancies are discovered after-the-fact (i.e., when something's already fabricated or erected), an order of precedence for the contract documents is established so that payment can be justified.
5. Section 7.7 of the *Code* notes that grouting is the responsibility of the *Owner's Designated Representative for Construction*. This is the entity that is responsible to the owner for the overall construction of the project, including its planning, quality and completion and is usually the general contractor, the construction manager or similar authority at the job site.
6. Per Section 7.13(b) of the *Code*, "For horizontal members, the working point shall be the actual centerline of the top flange or top surface at each end." See Section 7.13 of the *Code* and corresponding Commentary for additional information.
7. No. Such work is best contracted to a field-painting contractor. See Section 7.17 of the *Code*.
8. Per Section 6.4.4 of the *Code*, "For beams that are specified in the Contract Documents with camber, beams received by the Fabricator with 75% of the specified camber shall require no further cambering. Otherwise, the variation in camber... shall be equal to or less than minus zero/plus 1/2 in. [13 mm]." Note this variation is measured in the shop in the unstressed condition.
9. Sometimes yes, oftentimes no. But the intent of this *Code* provision is that the return time for approved shop and erection drawings be clearly defined in the contract documents so the fabricator can compose his or her bid appropriately.
10. As noted in Section 5.1 of the *Code*, the fabricator is permitted, unless otherwise noted in the contract documents, to order the materials needed for fabrication upon receiving contract documents that have been released for construction.