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 aare to the 1999 *LRFD Specification for Structural Steel Buildings*, available as a free download at www.aisc.org. ASD references are 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, please contact AISC's Steel Solutions Center at:

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Questions and answers for this month's *Steel Quiz* were provided by the staff of the AISC Steel Solutions Center.

Questions

1. True or False: It is the fabricator's responsibility to both report and discover any discrepancies in the Contract Documents.
2. Are there any special hole size requirements for galvanized members or for galvanized bolts?
3. Where is the 2002 North American Steel Construction Conference being held?
4. Are hooked rods recommended for anchoring base plates that experience uplift?
5. True or False: All bolts, nuts and other components in a fastener assembly can be shipped loose in separate containers.
6. What must be done with galvanized members used in a slip-critical connection?
7. What does "AESS" stand for?
8. Where are loading cases for structural steel specified?
9. What is the proper standard steel material specification for wide flange shapes?
10. In seismic design, the expected yield strength is given by $F_{ye} = R_y F_y$, where R_y is a magnifier of the specified minimum yield strength of the material in question. What value of R_y should be used for ASTM A500 hollow structural sections?

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Answers

1. False. Per Section 3.3 (and corresponding commentary) of AISC's *Code of Standard Practice* (dated March 7, 2000), "While it is the Fabricator's responsibility to report any discrepancies that are discovered in the Contract Documents, it is not the Fabricator's responsibility to discover discrepancies, including those that are associated with the coordination of the various design disciplines."

2. There are not any special hole size requirements for galvanized members. Holes for galvanized bolts or members are not permitted to be larger than those specified in Table 3.1 of the 2000 RCSC *Specification for Structural Joints Using ASTM A325 or A490 Bolts*.

3. Seattle, Washington

4. No. Hooked rods just don't have the pullout capacity that threaded rods with nuts have. It is believed by many that hooks are no better than having a straight rod. Thus, anchorage with a hooked rod would require development of bond between the rod and concrete. This is really not possible with smooth rods.

5. False, per the commentary of Section 6.6.2 of the 2000 *Code of Standard Practice*. In most cases bolts, nuts and other components in a fastener assembly can be shipped loose in separate containers. However, ASTM F1852/F1852M twist-off-type tension-control bolt assemblies and galvanized ASTM A325, A325M and F1852/F1852M bolt assemblies must be assembled and shipped in the same container according to length and

6. The faying surfaces should be prepared in accordance with Section 3.2.2 of the 2000 RCSC *Specification*: Galvanized members are first hot-dip galvanized to meet ASTM A123 and the faying surfaces can then be roughened by means of hand wire brushing. Power wire brushing is not permitted. When prepared by roughening, the galvanized faying surface is designated as Class C for design.

7. Architecturally Exposed Structural Steel. Requirements for AESS are outlined in Section 10 of the 2000 *Code of Standard Practice*.

8. The 1999 LRFD *Specification* states that all nominal loads and factored load combinations shall be as stipulated by the applicable building code under which the structure is designed. In absence of such a code, ASCE 7 should be used.

9. ASTM A992. A992, with a minimum strength of 50 ksi, now available, has been incorporated into the 1999 LRFD *Specification*. For designers, the switch from A572 Gr. 50 to A992 should be seamless, and in fact, many designers had been specifying the material, albeit as A572 Gr. 50 (with special requirements) per AISC Technical Bulletin #3, March 1997 (bulletin available at www.aisc.org).

10. Per Supplement No. 2 to the *Seismic Provisions for Structural Steel Buildings* (available as a free download in the seismic section of www.aisc.org), R_y should be taken as 1.3 for hollow structural sections specified to ASTM A500, A501, A618, and A847.