

steel quiz

LOOKING FOR A CHALLENGE? *Modern Steel Construction's* monthly Steel Quiz tests your knowledge of steel design and construction.

According to Mies Van der Rohe, "God is in the details". Accordingly, this Steel Quiz highlights information that can be found in ...well, see Question 1.

- 1 True/False: AISC provides a manual that illustrates common details and formats for the preparation of shop and erection drawings.
- 2 What are some of the operations that one commonly finds taking place in a structural steel fabrication shop?
- 3 As per the AISC *Code of Standard Practice* are fabricators and detailers obligated to discover discrepancies in contract documents?
- 4 In order to optimize the erection process, how often should columns be spliced?
 - (a) Every two floors
 - (b) Every three floors
 - (c) Every four floors
 - (d) Both (a) and (c) are correct
- 5 True/False: Weld length does not limit the effective size of a fillet weld.
- 6 True/False: A weld symbol on the bottom side of the line signifies a weld on the arrow side.
- 7 According to the American Welding Society what is the standard symbol with which to specify dye penetrant testing on a drawing?
 - (a) PT
 - (b) MT
 - (c) RT
 - (d) UT
- 8 What is CIS/2?
- 9 Which of the following material types is corrosion resistant?
 - (a) ASTM A992
 - (b) ASTM A500
 - (c) ASTM A588
 - (d) ASTM A514
- 10 True/False: Batten plate is the term used to describe a column base leveling plate.

- 1 True. The recently released AISC *Detailing for Steel Construction*, 3rd Edition provides guidance on the proper detailing and formatting of shop and erection drawings. It is similar to the 2nd edition, but updated to conform to the 2005 AISC *Specification*. You can purchase this manual at www.aisc.org/bookstore.
- 2 Fabrication of structural steel includes a wide variety of operations, some of which vary based upon equipment. Computer-numeric-controlled equipment has rendered template making and laying out a rare activity these days. Still there are cutting, punching and drilling, grinding, fitting, welding, bolt installation, and similar operations. Chapter 1 of the 3rd Ed. AISC *Detailing Manual* provides information on these and many other activities.
- 3 No. The accuracy of the contract documents is the responsibility of the Owner's Designated Representative for Design. Section 3.3 of the 2005 AISC *Code of Standard Practice* [a free download at www.aisc.org/code] requires that discrepancies must be reported when they are discovered, but also notes that the fabricator and steel detailer are not obligated to find them. Chapter 2 of the 3rd Ed. AISC *Detailing Manual* addresses topics related to the quality of construction drawings.
- 4 (d) Since erectors are required by OSHA to tie off when the fall distance exceeds 30 ft, placing column splices every three floors is an inefficient choice for the purposes of erection. Other common OSHA requirements that impact steel design and detailing are discussed in Chapter 2 of the AISC *Detailing Manual*.
- 5 False. According to Section J2.2b of the 2005 AISC *Specification*, the maximum effective fillet weld size can be no greater than 25% of the weld length. Connection detailing requirements like this one are covered in Chapter 3 of the AISC *Detailing Manual*.
- 6 True. Welding symbols and other aspects of welding are covered in Chapter 4 of the AISC *Detailing Manual*.
- 7 (a) Basic symbols for nondestructive testing have been developed by AWS and published in AWS A2.4. Dye penetrant testing is symbolized by PT. PT and other methods of NDT also are covered in Chapter 4 of the AISC *Detailing Manual*.
- 8 CIS/2 is a neutral data file format for the exchange of design and construction information. AISC has endorsed this format as the method to accurately convey information between all members of the project team. Appendix C of the AISC *Detailing Manual* provides more information on data formats.
- 9 (c) ASTM A588 is also known as weathering steel. It gets its corrosion resistance by forming an adherent protective layer on its surface as it weathers. Chapter 1 in the AISC *Detailing Manual* (and Part 2 of the 13th Edition AISC *Steel Construction Manual*) provide a summary of materials.
- 10 False. A batten plate is an element that is used to join two parallel components of a built-up column, girder or strut. It is rigidly connected to the parallel components and designed to transmit the shear between them. See the glossary in the AISC *Detailing Manual* for common steel terms.

Anyone is welcome to submit questions and answers for Steel Quiz. If you are interested in submitting one question or an entire quiz, contact AISC's Steel Solutions Center at 866.ASK.AISC or at solutions@aisc.org.

