

# steel quiz

**LOOKING FOR A CHALLENGE?** *Modern Steel Construction's* monthly Steel Quiz tests your knowledge of steel design and construction. Many of the subjects in this month's Steel Quiz refer to ANSI/AISC 360-10, *Specification for Steel Buildings*, which is available as a free download at [www.aisc.org/2010spec](http://www.aisc.org/2010spec). The *Specification* is also included in the recently released 14th Edition AISC *Steel Construction Manual*, which is available for purchase at [www.aisc.org/manual](http://www.aisc.org/manual).

- 1 What is the acronym for the Australian equivalent of AISC?  
a) AISC    b) ASI  
c) AuISC    d) None of the above
- 2 Designing sustainable buildings is a growing trend in the U.S.; is there a similar trend in other countries?
- 3 True/False: International material standards with designations such as ISO and EN are covered in the 2010 AISC *Specification*.
- 4 True/False: The AISC Shapes Database contains metric values.
- 5 What free international event highlighting the steel industry will be held on September 23, 2011?  
a) SteelDay  
b) NASCC  
c) Greenbuild  
d) None of the above
- 6 True/False: Some C values given in the eccentrically loaded weld group tables in Part 8 of the 14th Edition AISC *Steel Construction Manual* are not determined by the instantaneous center of rotation method.
- 7 What new HP shape depths have been added to Table 1-4 of the 14th Edition *Manual*?  
a) HP16  
b) HP18  
c) HP20  
d) A and B  
e) All of the above
- 8 True/False: Bolt shear strengths in the 2010 AISC *Specification* are the same as those in the 2005 AISC *Specification*.
- 9 Which of the following revisions have been made to the prying action procedure in the 14th Edition AISC *Steel Construction Manual*?  
a) A default minimum fitting thickness has been added  
b) An explicit limit of 1.0 on the value of the variable  $\alpha$  has been clarified  
c) The effective length,  $p$ , for prying action has been clarified  
d) All of the above
- 10 True/False: The recommendations for design of coped beams in the 14th Edition AISC *Steel Construction Manual* require that top and bottom copes be of the same length.

TURN TO PAGE 14 FOR ANSWERS

# steel quiz ANSWERS

- 1 (b) ASI, the Australian Steel Institute (ASI). We used to share an acronym when they were known as the Australian Institute of Steel Construction.
- 2 Yes. In fact, AISC is cooperating with structural steel associations around the world to better define how structural steel can be used in sustainable construction. Research, including the "Target Zero" project in the U.K., is going on in many countries. You can find out more about Target Zero at [www.targetzero.info](http://www.targetzero.info).
- 3 False. AISC *Specification* Section A3 lists the material standards approved for use with the AISC *Specification*. While similar standards in other countries may use EN or ISO standards, the AISC *Specification* is based on ASTM standards.
- 4 True. The AISC Shapes Database contains metric values of the dimensions and properties for various structural shapes. The AISC Shape Database is available as a free download at [www.aisc.org/shapesdatabase](http://www.aisc.org/shapesdatabase). The AISC *Specification* includes provisions for both U.S. Customary or metric/SI measurement systems.
- 5 (a) SteelDay 2011 is the steel industry's largest educational and networking opportunity. It will be held Friday, September 23, 2011, and it's free to attend. To find an event near you, visit [www.steelday.org](http://www.steelday.org).
- 6 True. Section J2.4 in the 2010 AISC *Specification* provides for the instantaneous center of rotation method, and also gives alternative methods that are permitted. The C values tabulated are the largest value determined by all permitted methods.
- 7 (d) Shape information in the 14th Edition AISC *Steel Construction Manual* has been updated to ASTM A6-09, including the addition of HP16 and HP18 shapes.
- 8 False. Bolt shear strengths have been increased thanks to the combination of a smaller long-joint reduction factor and a shorter length at which the long-joint reduction applies; see the commentary to Section J3.6 in the 2010 AISC *Specification* and the reference made therein to Tide, 2010. The tables of bolt strengths in Part 7 of the 14th Edition AISC *Manual* have been updated to reflect these changes in the 2010 AISC *Specification*, as have the tables for simple shear connections in Part 10.
- 9 (b) and (c) are correct. Other minor revisions also have been made to simplify the prying action procedure in the 14th Edition AISC *Manual*.
- 10 False. This information in the 14th Edition AISC *Manual* has been clarified and provides an additional design procedure for conditions that do not meet the geometrical constraints of the familiar procedure based on the work of Cheng and Yura. It also addresses conditions where the tension flange cope is longer than the compression flange cope.



Steel  
**SolutionsCenter**

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](mailto:solutions@aisc.org).