

# steel quiz

**LOOKING FOR A CHALLENGE?** *Modern Steel Construction's* monthly Steel Quiz tests your knowledge of steel design and construction. The answers for this month's questions can be found in the 2010 AISC *Specification for Structural Steel Buildings* (ANSI/AISC 360-10), which is available as a free download at [www.aisc.org/freepubs](http://www.aisc.org/freepubs).

- 1 Which of the following topics is new in Chapter B in ANSI/AISC 360-10?
  - a) Material grades
  - b) Loads
  - c) Load combinations
  - d) Structural integrity
- 2 Which method of design for stability now appears in Chapter C?
  - a) Effective Length Method
  - b) Direct Analysis Method
  - c) First-Order Analysis Method
  - d) Cantilever Method
- 3 Which of the following advancements in composite design have been made in ANSI/AISC 360-10 Chapter I?
  - a) Better provisions for local buckling effects for filled members
  - b) More permissive provisions for composite compression members
  - c) New information on composite diaphragms and collector beams
  - d) All of the above
- 4 True/False: In ANSI/AISC 360-10, slip-critical connection design provisions are no longer based upon parallel service-level and strength-level limit states.
- 5 True/False: The safety factor has been revised for column bases and for bearing on concrete in ANSI/AISC 360-10 and matches the safety factor used in ACI 318.
- 6 In ANSI/AISC 360-10, Chapter K, Design of HSS and Box Member Connections, has been reorganized into what format?
  - a) Bulleted list
  - b) Side-by-side
  - c) Tabular
  - d) Appendix
- 7 True/False: Chapter N is a new chapter in ANSI/AISC 360-10 that addresses all quality requirements for steel building construction in gravity, wind and low-seismic applications.
- 8 True/False: Appendix 1, Design by Inelastic Analysis, is limited to use in continuous beams.
- 9 Appendix 6, Stability Bracing for Columns and Beams, has added provisions for which of the following?
  - a) Beam-columns
  - b) HSS sections
  - c) Composite diaphragms
  - d) Collector beams
- 10 True/False: Most of the revisions made to Chapters D, E, F, G and H in ANSI/AISC 360-10 are primarily for clarification and ease of use.

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- 1 (d) A new discussion on structural integrity, including how it relates to connection design, has been added to ANSI/AISC 360-10 in Section B3.2.
- 2 (b) Chapter C and Appendix 7 have been reorganized to place the Direct Analysis Method in the main body of the *Specification* (Chapter C). Other explicitly listed methods of design for stability (effective length method and first-order analysis method) are now located in Appendix 7.
- 3 (d) ANSI/AISC 360-10 Chapter I has been updated to incorporate the current research and understanding regarding the design and behavior of composite members. Chapter I has also been updated and reorganized to simplify its use in the design of composite members.
- 4 True. In ANSI/AISC 360-10 Section J3.8, provisions for determining the available strength of slip-critical connections have been streamlined and simplified. They no longer differentiate between service-level and strength-level slip resistance.
- 5 False. This could be considered a trick question, because ACI 318 does not address safety factors and ASD. However, the provisions in ANSI/AISC 360-10 Section J8 for LRFD now are identical to equivalent provisions in ACI 318-08.
- 6 (c) Chapter K in ANSI/AISC 360-10 has been reorganized into a tabular format that includes figures illustrating the connection configurations. Some technical revisions also have been incorporated. The new format is a significant improvement in helping the reader understand what provision applies to what case.
- 7 True. Chapter N, Quality Control and Quality Assurance, is a new chapter in AISC 360-10. It is a combination of specific requirements and incorporation by reference of other applicable requirements in documents like the AISC *Code of Standard Practice*, AWS D1.1, and the RCSC *Specification*.
- 8 False. Appendix 1 of ANSI/AISC 360-10 is generally applicable to frames, members and connections.
- 9 (a) Appendix 6 of ANSI/AISC 360-10 has been revised to include beam-column bracing.
- 10 True. In ANSI/AISC 360-10, Chapters D, E, F, G and H include revisions incorporated primarily for clarification and ease of use without major revisions to the technical content.



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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).