

steel quiz

This month's Steel Quiz is based on information from presentations given at the 2018 NASCC: The Steel Conference. View the presentations for free on our Education Archives webpage at www.aisc.org/educationarchives. And mark your calendars for the next Steel Conference, April 3–5, 2019 in St. Louis.

- 1 **True or False:** Part 2 of the AISC 15th Edition *Steel Construction Manual* provides guidance on attaching curtain wall façade systems to structural steel framing.
 - 2 Which of the following items will be new additions to the AISC 3rd Edition *Seismic Design Manual*?
 - a. Design examples of a bolted flange-plate connection for an SMF frame
 - b. Design examples for special truss moment frames (STMF)
 - c. A new section that covers multi-tiered OCBF systems
 - d. a and c
 - e. All of the above
 - 3 The recommended beam cope checks in the AISC 15th Edition *Steel Construction Manual*:
 - a. Removed limits of applicability that existed in previous versions of the manual
 - b. Takes into account the inelastic strength potential
 - c. Addresses different cope sizes for the top and bottom flanges
 - d. All of the above
 - 4 Part 9 of the AISC 15th Edition *Steel Construction Manual* includes equations to check wall plastification of hollow structural sections (HSS) that include the variable, Q_f . This variable is used:
 - a. To account for some of the yield lines being treated as pinned
 - b. To reduce the local strength at a connection due to global forces in the member
 - c. To account for effective stiffness based on the location of the connection relative to the HSS walls
 - d. None of the above
 - 5 At beam-to-column web connections, which of the following is a popular connection type that is used?
 - a. Single-angle connections
 - b. Shear end-plate connections
 - c. Seated connections
 - d. Extended single-plate connections
 - 6 Which of the following is not one of the life lessons that Duane Miller covered in his keynote lecture?
 - a. Provide a path for the force to enter into a parallel member or section
 - b. Constraint and notches are the key contributors to structural failures
 - c. Shear stresses are essential for ductility
 - d. The rules of problem solving
 - e. The value of mentorship
 - 7 **True or False:** When you put diverse people together, you are increasing the probability of healthy debate and conflict.
 - 8 Which of the following is true regarding weathering steel?
 - a. Not all shapes will age/color the same
 - b. Standard electrodes will not weather the same as adjacent materials
 - c. A low corrosion rate can achieve a 120-year design life with nominal maintenance
 - d. All of the above
 - e. None of the above
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TURN PAGE FOR THE ANSWERS

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All presentations mentioned below are available online at www.aisc.org/educationarchives.

- 1 **True.** Information is provided in the section “Building Façade Tolerances” and includes figures (Figure 2-3, 2-4 and 2-5) of different façade attachment details to structural steel, including those that are recommended and those that are not. Find out more information about understanding, applying and adapting tolerances in the 2018 NASCC presentation “It Fits!”
 - 2 **e.** All of the above. Find out more information about the AISC 3rd Edition *Seismic Design Manual* (www.aisc.org/publications) in the NASCC presentation “The AISC 3rd Edition *Seismic Design Manual*.”
 - 3 **d.** All of the above. Find out more information about these changes in the NASCC presentation “New Developments in Connection Design.”
 - 4 **b.** You can find more information about HSS connection design and changes made to Chapter K of the AISC *Specification for Structural Steel Buildings* (ANSI/AISC 360, www.aisc.org/specifications) in the NASCC presentation “AISC 360-16 Chapter K Design Examples.”
 - 5 **d.** Extended single-plate connections can be a very efficient way to connect a beam to the column web. They allow the erector to easily swing in the beam and bolt up the connection. If there is a schematic detail in the contract documents that show the use of stabilizer plates, it is a good idea to try to establish using early on via calculations that these stabilizer plates are not needed, which is typically the case. Learn more about connection design delegation in the NASCC presentation “Delegation and Collaboration on Connections.”
 - 6 **Trick question.** All of these were addressed in Duane’s keynote address. See all 10 life lessons in “Important Lessons I’ve Learned During the Past 40 years.”
 - 7 **True.** Increasing the probability of healthy debate and conflict will, in theory, lead to better results. If you put like-minded people together, they tend to agree with each other. Find out more about progressing towards a more diverse and collaborative workplace by viewing the NASCC presentation “Solutions for Equity in the Workplace.”
 - 8 **d.** All of the above. Find out more about the benefits and challenges associated with weathering in the NASCC presentation “Building with Weathering Steel.”
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If you are interested in submitting one question or an entire quiz, contact AISC’s Steel Solutions Center at 866.ASK.AISC or solutions@aisc.org.