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 pertain to the 1999 *LRFD Specification for Structural Steel Buildings*, available as a free download at

www.aisc.org/lrfdspec.html

ASD references pertain 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, contact:

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Thanks to **Julie Kuenneke** of The Hughes Group in Missouri who con-tributed the first five questions of this month's *Steel Quiz*.

QUESTIONS

1. How should a parallel-chord joist for slopes greater than ½ to 12 be specified?

2. What does the term "pitched chord" mean?

3. Are standard steel joists designed to resist loads induced by attachment of a fall arrest system?

4. While investigating roof joists in an existing building for the purpose of adding a roof-top unit, how can you identify the joist designation?

5. How does the erector safely place joist bridging bundles on steel joists during the erection process?

6. Which correctly designates a round HSS that has a nominal outside diameter of seven inches and a nominal thickness of a half-inch?
   a. HSS 7 × ½
   b. HSS 7.000 × 0.500
   c. ½ HSS 7.000
   d. 7 HSS ½

7. Which correctly designates a square hollow structural section that has a nominal outside dimension of seven inches and a nominal thickness of a half-inch?
   a. HSS 7 × ½
   b. HSS 7.000 × 0.500
   c. HSS 7.000 × 7.000 x 0.500
   d. HSS 7 × 7 × ½

8. When a pair of angles is noted SLBB or LLBB, what does this mean?

9. When a single angle is noted as SLV or LLV, what does this mean?

10. Can the same nut be used on both cut and rolled threads?

TURN PAGE FOR ANSWERS

STEEL QUIZ

ANSWERS

1. Calculate the sloped length and using this length select a joist that will meet the correct span to depth ratio and one that will support the necessary uniform loading.

2. The term "pitched chord" refers to a parallel-chord steel joist wherein the top chord is pitched (or sloped) while the bottom chord remains flat. The top chord may be pitched in one direction or it may be pitched in both directions from the center. The nominal depth for pitched chord joists is measured at the center of the joist span. Pitched chord joists are fabricated with standard camber amounts unless otherwise stated on the structural drawings.

3. No. However, the OSHA safety regulations for steel regulation (§1926.757(a)(10) provide guidelines under which an erector can obtain permission whereby a fall arrest system can be attached to a joist.

4. The quickest and most accurate method is to reference the joist erection drawings or the structural drawings. However, for many of the older buildings these drawings are not available and in this event we recommend following the investigative procedure shown starting on page 5 of the Steel Joist Institute's *60-Year Manual* (see www.steeljoist.org for more information).

5. The available strength should be investigated. Additionally, OSHA states in paragraph §1926.757(e)(3) that: "The weight of a bundle of joist bridging shall not exceed a total of 1,000 pounds (454 kg). A bundle of joist bridging shall be placed on a minimum of three steel joists that are secured at one end. The edge of the bridging bundle shall be positioned within 1 foot (.30 m) of the secured end."

6. b.

7. d.

8. SLBB stands for "short legs back-to-back." Alternatively, LLBB stand for "long legs back-to-back."

9. SLV stands for "short leg vertical." Alternatively, LLV stands for "long leg vertical."

10. Yes. Both rolled and cut threads are produced to meet the same threading specification.

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