

# Steel Quiz

*Steel Quiz*, a monthly feature in *Modern Steel Construction*, allows you to test your knowledge of steel design and construction. Answers can generally be found in the *LRFD Manual of Steel Construction*, 2<sup>nd</sup> edition, but other industry standards are often referenced.

If you or your firm are interested in submitting a Steel Quiz question or column, please contact:

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**It's time for your fall midterm exam. Get ready; get set; go!**


## Questions

- For a 3/4" A490 bolt, what would be the size of a short-slotted hole?
- What are the two meanings of the acronym HSS?
- Which of the following is NOT an abbreviation for a welding procedure:
  - GMAW
  - SMAW
  - MIG
  - MIG
- What is the identification color for A572 Grade 50 steel, according to ASTM A6/A6M?
- What is the  $\phi$ -factor for tension rupture?
  - 0.65
  - 0.75
  - 0.85
- True or False: The AISC *Specification* requires that bolts be spaced at 3" o.c. minimum.
- True or false: Structural steel must be shop primed to receive spray-applied fire protection.
- The AISC *Manual* recommends what weld size for the plate-to-web weld (both sides) of a single plate shear connection:
  - 1/2"
  - 3/4 of the plate thickness
  - 3/4 of the supporting beam web thickness
- What color are the AISC *Seismic Provisions* (1997)?
- Shear studs must project how far above the ribs of a composite slab?
  - 3/4"
  - 1-1/2"
  - 2"

**Turn page for answers**

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## Answers

1. For a 3/4" bolt, a short slot-  
ted hole would be 13/16"  
by 1".
2. Hollow Structural Section,  
or High Strength Steel.
3. c. (Unless your CWI likes  
catnip and yarn)
4. Green and yellow, usually  
painted on the ends of the  
steel sections, identifies it as  
A572 grade 50.
5. b. For tension rupture, the  
 $\phi$ -factor is 0.75.
6. False. The minimum center-  
to-center spacing for  
bolts is  $2 \frac{2}{3} d_b$ , although  
 $3d_b$  is preferred.
7. False. Spray-applied fire  
protection won't properly  
adhere to standard shop  
primers.
8. b. 3/4 of the shear plate  
thickness is the recom-  
mended weld size. This  
guarantees that the plate  
will yield before the weld  
will fail.
9. The 1997 AISC *Seismic Pro-  
visions* are this color:  

10. b. Shear studs must pro-  
ject 1 1/2" above the deck  
ribs according to the AISC  
*Specification*.

**What do you  
think?**

**What would you like  
to see in Steel Quiz?**

**Send your ideas and  
comments to**

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