

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*, 2nd edition, but other industry standards are often referenced.

This month's *Steel Quiz* was contributed by the **Engineering & Research Department** at AISC, Chicago, IL.

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

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Questions

Can you make sense of these commonly used acronyms from the steel design and fabrication industry?

1. What do the following acronyms have in common, and what do they stand for?
 - a. SMF
 - b. CBF
 - c. EBF
 - d. OMF
2. How are ICC and IBC related? What do they stand for?
3. HSS is the designation for the shapes formerly known as _____?
4. What types of structures do AASHTO and NSBA have in common?
5. What is the definition of an "HAZ"?
6. CJP and PJP groove welds are commonly referred to by what slang names?
7. What does DTI stand for?
8. Our Canadian friends refer to it as LSD, but at AISC, we call it _____?
9. Do you know what SMAW, SAW, GMAW, GTAW, and FCAW stand for?
10. What do COP, NEC, NSCC, and NASCC have in common?

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Answers

1. These abbreviations are used in the AISC *Seismic Provision for Structural Steel Buildings* (1997) with 1999 Supplement. Answers: a. special moment frames; b. concentrically braced frames; c. eccentrically braced frames; d. ordinary moment frames.
2. The ICC is the International Code Council, a partnership between the three U.S. model building code organizations to develop a single building code—the IBC, or International Building Code.
3. HSS (Hollow Structural Sections) were formerly designated as TS (Tubes).
4. Both AASHTO (American Association of State Highway and Transportation Officials) and the NSBA (National Steel Bridge Alliance) deal with bridges.
5. The heat-affected zone, or HAZ, is, according to AWS D1.1-2000: *the portion of the base metal whose mechanical properties or microstructure have been altered by the heat of welding, brazing, soldering, or thermal cutting.*
6. CJP, or complete joint penetration groove welds, are commonly known as “full-pen” welds. PJP, or partial joint penetration groove welds, are commonly known as “partial-pen” welds.
7. DTI means “direct tension indicator,” a deformation-calibrated washer used for the installation of high-strength bolts.
8. Canada’s Limit States Design (LSD) is equivalent in philosophy to AISC’s Load and Resistance Factor Design (LRFD), eh?
9. SMAW = shielded metal arc welding. SAW = Submerged Arc Welding. GMAW = gas metal arc welding. GTAW = gas tungsten arc welding. FCAW = flux cored arc welding.
10. AISC’s COP (Conference of Operating Personnel) and NEC (National Engineering Conference) merged in the early 1980’s to become the NSCC (National Steel Construction Conference) which has now grown into the NASCC (North American Steel Construction Conference.) See you in Ft. Lauderdale in 2001!

Note: Many readers wrote in reference to our April Fools’ question: Which weighs more, a ton of A36 steel or a ton of A992 steel? (see the April 2000 issue). The answer, of course, is that they both weigh a ton, so they both weigh the same. We regret that our answer gave the misleading impression that we had fallen for our own joke!