

steel quiz

LOOKING FOR A CHALLENGE? *Modern Steel Construction's* monthly Steel Quiz tests your knowledge of steel design and construction. This month's Steel Quiz is in honor of SteelDay 2010 to be held on September 24. Answers to these questions have been gleaned from a wide variety of sources. Good luck!

- 1 What is the tallest building in the U.S.?
- 2 True/False: In 1930 construction of the Empire State Building in Manhattan rose at a rate of 4½ stories per week.
- 3 Which building was the first skyscraper to be built in the U.S.?
- 4 Which year was the American Institute of Steel Construction formed?
 - a) 1921
 - b) 1933
 - c) 1947
 - d) 1967
- 5 True/False: In 1966 the John Hancock Center in Chicago was built using ASTM A7 structural steel.
- 6 What is the largest U.S. building in terms of usable floor space?
- 7 Each year a greater mass of steel is recycled in the U.S. than which of the following?
 - a) Aluminum
 - b) Glass
 - c) Paper
 - d) Plastic
 - e) All of the above combined
- 8 True/False: The 14th Edition of the AISC *Steel Construction Manual* will be green.
- 9 What was the cost of the AISC *Steel Construction Manual* that was published in 1930?
 - a) \$1.00
 - b) \$2.00
 - c) \$5.00
 - d) \$7.50
- 10 True/False: Over the past 30 years the base price of structural steel has increased at a higher rate than that of inflation in the U.S.

steel quiz ANSWERS

- 1 Completed in 1973, the Willis Tower, formerly known as the Sears Tower, is the tallest building in the U.S. It is located in Chicago and used 74,000 tons of structural steel.
- 2 True. In 1930 construction of the Empire State Building proceeded at a rate of 4½ stories per week until it was completed in 1931 at 102 floors. The use of structural steel made this fast pace possible.
- 3 Completed in 1884, the Home Insurance Building in Chicago was the first skyscraper to be built in the U.S. It also was the first building in the U.S. to use steel beams in its construction.
- 4 (a) After the 1919 dissolution of the War Service Committee, formed just two years earlier to coordinate efforts of the steel fabricating industry, several far-seeing fabricators combined to promote the structural steel industry on a national basis. They created the National Steel Fabricators Association, which soon would become AISC. The young organization defined its goals and purposes, and was thus founded, in 1921. The name American Institute of Steel Construction was adopted in 1922.
- 5 False. The John Hancock Center topped out in 1968 and was completed in 1970. It is 100 stories tall, stands 1,127 ft above ground, and was built entirely of ASTM A36 structural steel.
- 6 The Palazzo in Las Vegas, which opened in January 2008, is the largest U.S. building in terms of usable floor space. With 6.95 million sq. ft of floor space, it is roughly 5% larger than the Pentagon, which previously held this distinction.
- 7 (e) Each year more steel by weight is recycled in the U.S. than aluminum, glass, paper and plastic combined.
- 8 False. The steel gods have spoken and the 14th Edition of the AISC *Steel Construction Manual* will be maroon.
- 9 (b) The \$2.00 first edition was published in 1930 as simply *Steel Construction*. It was produced with the cooperation of the steel mills and brought together for the first time data that previously had been available only from multiple mill catalogs. It also included a compilation of materials that had been developed by AISC throughout its first decade, including updated material from the Institute's first handbook, *Steel Construction Allowable Load Tables*, published in 1926.
- 10 False. The rate of increase in the base price of structural steel in the U.S. has stayed somewhat below that of U.S. inflation. In 1980 the base price of structural steel was slightly less than \$400/ton whereas the present price is approximately \$750/ton. This represents a price increase of only 2.1% per year.

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.

