

news

RESILIENCY

The New York Times Got it Wrong

The *New York Times* got it wrong. In the article “Skyscraper at Trade Center Rises From the Inside Out” (May 25), reporter David W. Dunlap discusses why the contractor for the new 3 World Trade Center building pushed for a concrete core surrounded by steel framing rather than the more typical (for New York) steel core.

According to the *NYT*, the reason goes back to the design of the original World Trade Center. Unfortunately, fact checking at the *New York Times* seems to be out of style. They wrongly characterize the original WTC as having a steel core. But the WTC didn't have a steel core and instead relied on a series of small perimeter columns.

“The World Trade Center towers used an unusual and then-innovative shaft wall core system that was built with layered gypsum board—it was a drywall core, not steel-framed as the *New York Times* incorrectly stated,” explains Charles J. Carter, an AISC vice president and chief structural engineer.

“The reality is that steel-framed buildings are the most robust buildings on the market today,” adds Carter. “The

Federal Emergency Management Agency published their report FEMA 439A, which studied the Alfred P. Murrah Federal Building in Oklahoma City. It states clearly that all concrete-framed buildings need special design requirements to make them blast resistant, and that 85% of the damage seen there resulted because the Murrah Building's concrete framing didn't have it. In contrast, FEMA 439B reported that an equivalent steel-framed building would not have collapsed at all, even without any special treatment in design. Even the Oklahoma City Federal Campus building that was constructed to replace the destroyed Murrah Building shows that steel is more robust and as a result uses a steel plate wall system. Analysis demonstrates it takes a foot of concrete to equal the blast resistance of an inch of steel—and it still would not perform to the same level as the steel wall because the surface concrete always becomes flying debris in a blast, which could potentially injure any nearby people.” (For more information, visit <http://tinyurl.com/FEMA439B>.)

The decision of whether to select a concrete or steel core or framing system for a modern high-rise is not a safety issue. Rather, the determining factors remain the architectural and structural design requirements, construction cost and scheduling, and the preferences of the specific contractor and designer. Steel framing is the preferred construction material for offices in New York City and throughout the nation. In fact, nationwide three steel-framed office buildings are built for every one concrete office building—and the ratio is even higher in New York City. History shows steel offers unmatched cost, schedule and environmental benefits.



The steel-framed WTC 3, under construction.

letters to the editor

Engineering is Art

The June issue of *MSC* is really something! The cover photo of the Seattle South Park Bridge is something else, though my favorite is the Hastings Bridge. The picture on page 24 is near-

ly magical. Who says that engineering isn't art?

Great job by the jury!

—Dr. Reidar Bjorbovde

The Bjorbovde Group, Tucson, Ariz.

People and Firms

- The Board of Directors of the **American Iron and Steel Institute (AISI)** has elected **John Ferriola**, chairman, president and CEO of **Nucor Corporation** (an AISC member), to serve as chairman of the Institute until May 2017. “John is a dedicated and outspoken advocate for our industry, and has engaged his employees and the supply chain to speak out on behalf of steel with their elected officials, especially on the issue of unfair trade,” said **Thomas J. Gibson**, president and CEO of AISI. “John's leadership is recognized worldwide, as he also will be chairing the World Steel Association next year. We are grateful to have him lead AISI for the next twelve months.”



- **Stites and Harbison, PLLC**, attorney and partner **David Ratterman**, general counsel for **AISC**, has been inducted into the **University of Kentucky (UK) College of Engineering** Hall of Distinguished Alumni. He is a member of in the firm's Construction Service Group, and his practice focuses on general construction law, with particular emphasis on the fabricated structural steel industry. Since its inception in 1992, the Hall of Distinction has honored those alumni who have demonstrated distinguished engineering professional accomplishments, outstanding character and commitment to community service.



STEELDAY

Steel Sculpture Competition Now Accepting Entries

Are you ready to make your structural steel vision come to life? Enter AISC's sixth annual Steel Sculpture Competition! If you're an AISC full or associate member, join this year's competition and create your own innovative steel sculpture for a chance to have your company featured in *Modern Steel* as well as receive a catered lunch!

Here are the rules:

- The sculpture must be steel (and only steel), but shapes, sizes and steel type can be your personal preference.
- The sculpture must be made entirely by your staff.
- The finished sculpture must fit in a 2-ft by 2-ft by 2-ft box (for shipping purposes).
- All entries must include a photo of your sculpture with a title and the name of the company submitting the project. Tips for an award-winning photo: Shoot your sculpture by a window to use natural light (direct sunlight

will wash out your sculpture), or face a light towards your sculpture; use a solid background that highly contrasts your sculpture (all white usually works best); and take the photo with a DSLR for optimum resolution.

- You choose the theme! But keep in mind these characteristics of steel: adaptable, economical, quick and sustainable.
- Entrants must be AISC full or associate member companies.

Submit your sculpture entry by September 9, 2016 to AISC's Jenny McDonald at mcdonald@aisc.org.

From September 19-23, all entries will be posted on at AISC Facebook page (www.facebook.com/aiscdotorg) where visitors can vote for their favorites. The five entries that receive the most "likes" will be put on display at the 2017 NASCC: The Steel Conference, March 22-25 in San Antonio, where the ultimate winner will be chosen by attendees. The

winner will also be featured in *Modern Steel* and receive a catered lunch for their company (up to a \$500 value).

For more about the competition, go to www.steelday.org/sculpturecomp. The competition is part of SteelDay, the structural steel industry's largest educational and networking event, held nationwide. It's scheduled for September 30 this year; mark your calendars! If you're interested in hosting or attending an event, visit www.steelday.org.



SUSTAINABILITY

Environmental Product Declarations for Fabricated Steel Now Available

AISC and NSBA have released Environmental Product Declarations (EPDs) for Fabricated Hot-Rolled Steel Sections and Fabricated Steel Plate. These EPDs satisfy the reporting requirements of Version 4 of the LEED rating system, as well as other green codes and rating systems, and are available for free at www.aisc.org/epd. These are the first EPDs available that include full documentation of structural steel products from both the mill production and fabrication stages before delivery to the project site.

The EPDs document the environmental impacts associated with domestically produced and fabricated steel products used in the construction of structural steel framing systems for buildings and bridges from the production stage (cradle) through the fabrication facility (gate). Determination of the life cycle environmental impacts was based on industry average production data from AISC member steel mills and survey data from nearly 300 AISC member fabricators.

Structural steel has long been considered the premier green construction material. The structural steel industry

remains the world leader in the use of recycled material and end-of-life recycling, with the recycled content of the structural steel beams and columns produced at U.S. mills averaging 90%. Currently 98% of structural steel is recovered at the end of the life of a building or bridge for reuse or recycling into new steel products.

The structural steel industry continues to improve its environmental performance through a history of continuing reductions in greenhouse gas emissions. The results of steel industry efforts are evident in recent findings on greenhouse gasses, which show that on a per ton basis the iron and steel industry reduced carbon emissions by 37% and energy intensity by 32% between 1990 and 2014.

The EPDs are available on an informational basis to architects and engineers involved in the design of buildings and bridges. In addition, they can be used by AISC full members to fulfill the documentation requirements for attaining credits under the LEED and other green building rating systems. To learn more, visit www.aisc.org/epd.

AWARDS

2017 IDEAS² Awards Call for Entries is Open

Architectural and engineering firms, structural steel companies, general contractors and owners are encouraged to enter their steel-framed building projects in the 2017 Innovative Design in Engineering and Architecture with Structural Steel (IDEAS²) Awards competition. Conducted annually by AISC, the awards recognize excellence and innovation in engineering and architecture on structural steel projects across the U.S. Entries are now being accepted for the competition at www.aisc.org/ideas2. Entrants should note this year's earlier entry deadline of August 26, 2016.

In addition, project entries will receive special recognition on SteelDay (September 30). New to the competition this year is an opportunity for the public to join in the judging of the projects entered in awards program by selecting their favorites at www.aisc.org/ideas2, starting the week of SteelDay. The project that receives the most votes will receive a People's Choice Award in the competition. All winners will be announced at the 2017 NASCC: The Steel Conference in San Antonio, March 22-25.