

EDUCATION

CVTC Installs Teaching Sculpture

Chippewa Valley Technical College (CVTC) in Eau Claire, Wis., recently installed a 1.5-ton steel teaching sculpture on the grounds of its Energy Education Center. The sculpture, standing nine feet tall and eight feet deep and wide, consists of a series of galvanized steel beams connected in varying angles with varying connection methods.

“The sculpture shows the different ways steel beams can be joined, along with different welds and fasteners,” said Al Spaeth, program director of CVTC’s Architectural Structural Design program. “It will help students visualize the connections they are learning about in the classroom.”

“These sculptures were created for their instructional value,” said Keith Vesperman, an instructor in the program. “The first one was in Gainesville, Florida in 1986. Our students were asking for one because they were having trouble visualizing the connections.”

Students first approached Spaeth about a sculpture in 2006, when the program, then called Civil Engineering, was located at the Business Education Center. However, logistics problems prevented the placement of a sculpture there. When the program moved to the Energy Education Center this year, CVTC President Bruce Barker gave the go-ahead to pursue the project.

Spaeth and Vesperman worked through the program’s advisory committee and the CVTC Foundation to secure donations. The steel fabrication was donated by Merrill Steel of Schofield, Wis. (an AISC member and certified fabricator).

“We hire exclusively out of CVTC’s program for our steel detailing group,” said James Meaden, detailing and document control manager for Merrill Steel. “We have about 12 CVTC graduates and try to hire one or two from each graduating class.”

Meaden said he approached the company’s three principal owners. “They were all on board in providing a teaching opportunity to the school,” he said.

Merrill Steel donated and fabricated the steel and handed it off to AZZ Gal-

vanizing in Winsted, Minn. (an AISC member) which donated its galvanizing services. Then Merrill assembled the parts according to an engineered design based on model designs from AISC. Harris Rebar donated materials for the concrete base and Evan Berglund of Krech Ojard provided engineering review services.

Vesperman noted that there are dozens of different steel members, weld groups and connection elements used in steel construction, and while the sculpture doesn’t feature them all, it has the ones most commonly used. “We will absolutely be going outside as a whole class to look at the examples,” he said.

“And students will be walking by it every day and can look at it on their own,” Spaeth added.

Maeden said fabricated steel usually costs about \$3,000 a ton. Considering the number of small pieces involved and all of the other donated labor that went into the sculpture, the total project is worth about \$14,000, he added.

However, all materials and labor were donated through the CVTC Foundation, Inc.

“This is a wonderful example of how in-kind contributions can directly enhance learning opportunities for students,” said Aliesha Crowe, executive director of the Foundation. “We are grateful to our partners at Merrill Steel and other companies who contributed to this project that is a valuable addition to the Energy Education Center grounds and to CVTC’s instructional resources.”

There are currently more than 170 such teaching sculptures at colleges and universities around the U.S. Most are outside engineering schools at major universities, but there are a few at community and technical colleges. CVTC’s sculpture is the first at a technical college in Wisconsin.

For more about the AISC steel sculpture, including a list of school locations and information on having one constructed on your campus, visit www.aisc.org/steelsculpture.



NASCC

2018 NASCC Registration Now Open

The 2018 NASCC: The Steel Conference is set to take place April 11–13 in Baltimore. If you're involved in the design or construction of steel buildings or bridges, this is your once-a-year opportunity to meet more than 4,500 industry practitioners and learn from the leading experts in the steel community, whether it's an expert on wind design, the author of a design guide on vibration or members of the committee who put together the AISC *Code of Standard Practice*. In addition, more than 240 exhibitors will showcase the latest products and services ranging from fabrication equipment to structural engineering software.

"The industry connections, personal relationships, cutting-edge technology and face-to-face interactions are worth way more than the cost of the entire trip," said 2017 participant Nyckey Heath, PE, of Bennett Steel, Inc. (an AISC member and certified fabricator). "I have met many people who have proven to be valuable resources for me as an engineer, fabricator and erector. This is an investment in your company's future!"

This year's event will offer more than 130 technical sessions on the latest design concepts, construction techniques and cutting-edge research, including 13

sessions at the SSRC Annual Stability Conference and 26 sessions at the World Steel Bridge Symposium. The conference also includes an Architect's Program, a tailored collection of more than 50 unique sessions for architects.

Participants can earn up to 16 PDHs by attending the conference's dynamic, expert-led sessions (plus an additional 4 PDHs if they attend an optional pre-conference short course).

This year's conference also features three keynote sessions—one each day. The first is on a general topic designed to engage the audience and will feature Dan Goods, a visual strategist for NASA's Jet Propulsion Lab. The second will feature a presentation from the top-rated speaker from the last decade of The Steel Conference—Duane Miller, PE, ScD, manager, engineering services and welding design consultant at Lincoln Electric. The third is the 2018 T.R. Higgins Lecture, presented by 2018 award winner Robert J. Connor, a professor at Purdue University School of Engineering.

One low registration fee gains you access to all of the technical sessions, the keynote sessions, the T.R. Higgins Lecture and the exhibition hall. Registration for the conference is now open. For more information, visit www.aisc.org/nascc.



People

- **Modjeski and Masters** announced that after 41 years with the firm, CEO **Barney Martin, Jr.**, has retired. He is being replaced by **Michael Britt**, who was promoted to president last year and worked for the firm from 1979 to 1989, left briefly, returned and eventually became an associate in 1997. During his tenure, Martin spearheaded the firm's growth, opening new offices in Philadelphia, Washington, D.C., and Raleigh, N.C., and leading the firm to its first acquisition ever in 2015 when Littleton, Colo.-based **Summit Engineering Group, Inc.**, was acquired.
- **Gregory D. Shreve, SE, PE**, has been appointed by the **LeMessurier** board of directors as executive vice president. Shreve joined the company in 1984 and was promoted to associate in 2000 and vice president in 2008. In addition, **Eric M. Hines, PE, PhD**, has been appointed to the company's board. Hines joined LeMessurier in 2002 and was promoted to associate in 2004 and principal in 2010. He is also a Professor of the Practice at **Tufts University**, where he has taught structural design and guided graduate student research since 2003, thus perpetuating the long-established culture between academia and profession established by **William LeMessurier**, when he founded the firm and taught at MIT.
- Bridge engineering and supply company **Acrow Bridge** (an NSBA member) announced that **Mark Joosten** has been named president of the **Acrow Group**, in addition to maintaining his role as COO. At the same time, **Paul Sullivan** has been named the company's senior vice president – international.

CERTIFICATION

AISC Releases New Certification Standard for Steel Fabrication, Components and Erection

AISC has released a new standard, *Certification Standard for Steel Fabrication and Erection, and Manufacturing of Metal Components* (AISC 207-16). Available for free at www.aisc.org/newcertstandard, this standard brings together provisions from four existing standards related to steel building fabrication, steel bridge fabrication, steel erection and metal component manufacturing. Developed by AISC's Certification Standards Committee, the standard harmonizes common components of the existing standards into a cohesive document.

The previous standards, developed over a period of years, were difficult to compare side by side. By combining commonalities of the existing standards,

the new standard simplifies and clarifies provisions for program participants and their markets. Owners, DOTs, architects, engineers and general contractors will gain a better understanding of AISC Certification with this improved format.

"The significance of the harmonized standard lies in Section One," said Michael A. West, PE, AIA, principal, Computerized Structural Design, Milwaukee, Wis., and chair of AISC's Certification Standards Committee. "The provisions in it are common to all four industry segments. Because the previous four separate standards were developed over time, minor differences in terminology and requirements have been discovered in the documents. The

common requirements in Section One correct this situation and leave any differences among industry segment requirements to their four unique industry sections."

The certification program migration to the new standard will kick off at NASCC: The Steel Conference (www.aisc.org/nascc) in Baltimore on April 11-13, 2018. There will be three technical sessions on the fabricator certification program migration for building, bridge, hydraulic fabricators and component manufacturers.

For questions, please contact AISC Certification at certification@aisc.org or 312.670.7520.

MANUAL

15th Edition AISC Manual Companion Resources Available

AISC has posted several new resources that complement the 15th Edition *Steel Construction Manual*, released this past summer. Included are the v15.0 Design Examples, v15.0 Shapes Database, v15.0H Historic Shapes Database, Basic Design Values Cards and Interactive Reference List. All are available for free download at www.aisc.org/manualresources.

"The practicing engineer or student will find these updated resources of great value as design tools, references and learning tools in their day-to-day practice," notes Cynthia Duncan, AISC director of engineering.

The v15.0 Design Examples contain more than 1,600 pages of examples and tables that illustrate using the provisions of the 2016 *Specifi-*

cation for Structural Steel Buildings and the 15th Edition *Manual* for designing members, connections and structural systems. The new version 15.0 offers several improvements over the previous version 14.2, including many new member design tables that supplement the *Manual* with additional material grades, including ASTM A913 Grades 65 and 70 W-shapes and ASTM A1085 HSS members. Also included in v15.0 are new design examples that outline the procedure for satisfying structural integrity requirements—but only when required by the building code—for common connection types.

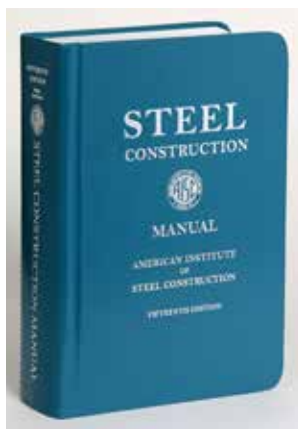
The v15.0 Shapes Database is a Microsoft Excel spreadsheet that compiles the dimensions and properties of all shapes printed in Part 1 of the 15th Edition *Manual*. All of the 96 new shapes added to the 15th Edition are now included in v15.0 along with several useful dimensions including the "T" dimension and "Workable Gage." The database now has a built-in Readme file that serves as the glossary for the database along with a complete list of improvements for v15.0.

The new v15.0H Historic Shapes Database is updated with all dimensions and properties consistent with the 14th

Edition *Manual*. This resource provides a complete list of shapes recorded from 1873 to 2010. The Basic Design Values Cards present some of the most frequently used limit state equations for checking members and connections from the 2016 *Specification* in an abbreviated format. The "pocket" size of these cards allows them to be kept on your desk or in your field notebook for use in situations where the available strengths for members and connections are needed quickly.

The Interactive Reference List is a complete listing of all the references found in both the 2016 *Specification* and 15th Edition *Manual*. A link is provided (where available) to the location where the listed publications can be obtained. Many of the references are available from the AISC website, while others are linked to the outside organization where the publication can be accessed or purchased.

The 15th Edition *Manual* is available for purchase in hard copy for \$200 for AISC members and \$400 for non-members. Orders may be placed online at www.aisc.org/publications or by calling 800.644.2400. And for more on these resources, see January's ManualWise article, "Making the Most of the *Manual*," available at www.modernsteel.com.



CONSTRUCTION TRENDS

New Report Highlights Benefits of Hybrid Steel and Timber Construction

AISC and Skidmore, Owings & Merrill, LLP (SOM) have released a new report and a video presentation on steel and timber research for mid- and high-rise residential buildings.

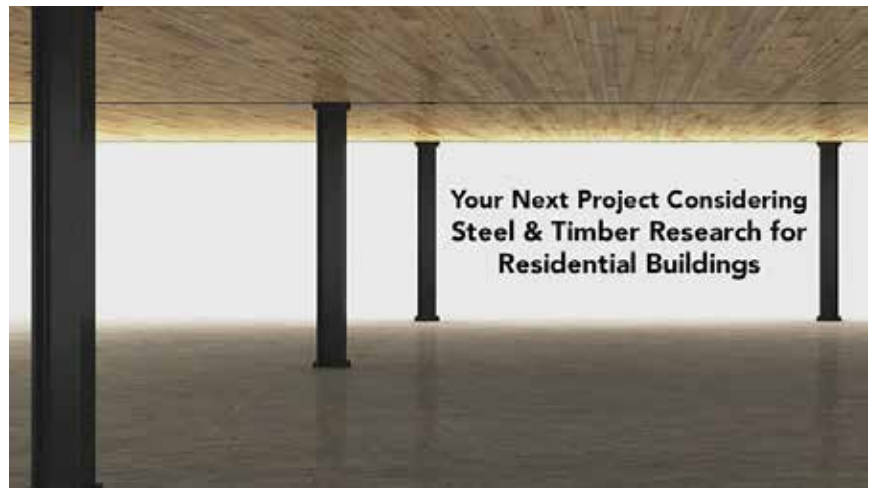
Structural steel frames have many benefits that complement residential construction, such as prefabrication and speed of construction. These characteristics are similar to emerging technologies such as cross-laminated timber. AISC and SOM partnered to study the combination of these materials as they relate to the challenges of residential construction. The report covers the motivations of this research and a proposed steel-timber composite system for high-rise buildings.

The proposed system consists of structural steel columns and beams that support a cross-laminated timber (CLT) floor system, creating a flat soffit condition. This steel and timber framing system builds on SOM's Timber Tower Research Project, launched in 2013 with Oregon State University, which studied timber-

concrete composite construction for a hypothetical high-rise building. The purpose of the testing program was to validate CLT floor systems with a composite concrete topping slab, and the testing program established that the concepts developed by SOM are valid for high-rise buildings. AISC and SOM's study successfully shows that the comparative steel-timber composite construction system could

also be competitive in the high-rise residential market.

The report, *AISC Steel and Timber Research for High Rise Residential Buildings—Final Report*, and a video presentation by Benton Johnson, SE, PE, senior structural engineer at SOM, titled, *Your Next Project Considering Steel & Timber Research for Residential Buildings*, are both available for free at www.aisc.org/timberresearch.



PUBLICATIONS

Two AISC Publication Drafts Available for Public Review

A draft of the 2018 AISC *Specification for Safety-Related Steel Structures for Nuclear Facilities* (AISC N690) is now available for public review. This document is written as a supplement to the 2016 AISC *Specification for Structural Steel Buildings*; therefore, the primary revisions are related to revisions in that standard. The document and public review form are available at www.aisc.org/publicreview.

Please submit your comments electronically to duncan@aisc.org using the review comment form, or mail to Cynthia Duncan, AISC, Suite 2000, 130 E.

Randolph St., Chicago, IL 60601 by March 26, 2018. A hard copy is also available for \$15 by calling Rachel Jordan 312.670.5411 or by emailing jordan@aisc.org.

In addition, Supplement No. 1 to the 2016 AISC standard *Prequalified Connections for Special and Intermediate Steel Moment Frames for Seismic Applications* (AISC 358-16) is available for public review until March 2, 2018. This document adds an additional prequalified connection, the SSDA Slotted Web moment connection, updates the Chapter 10 ConXtech Con

XL moment connection and expands the scope of prequalification for the Chapter 11 SidePlate moment connection.

The standard is available at www.aisc.org/publicreview along with the review form. Copies are also available (for a \$35 nominal charge) by contacting Rachel Jordan at 312.670.5411 or by e-mailing jordan@aisc.org. Please submit comments using the forms provided online to Margaret Matthew (matthew@aisc.org) by March 2, 2018 for consideration.