

news & events

EVENTS

Green in Beantown

Several AISC staff members attended the Greenbuild International Conference and Expo this past November, which was held in the steel-framed Boston Convention and Exhibition Center in Boston. The event attracted approximately 28,000 attendees and more than 800 exhibitors. AISC and the American Iron and Steel Institute (AISI) partnered on a booth and were Gold sponsors of the show; AISC's sponsorship included being the sole sponsor of the Greenbuild's opening reception, which kicked off the show. AISC president Roger Ferch was among the dignitaries who made remarks prior to the ribbon-cutting ceremony for the exhibit hall's opening. Archbishop Desmond Tutu gave the opening keynote address for the show.

Traffic was brisk at the booth once again this year, where the two orga-

nizations spread the message about steel being the most recycled material on the planet. AISC's famous Slinky giveaway, which bore the tag line "There's always a sustainable solution in steel," was a big hit; booth personnel gave away 1,000 of the classic toys and even ran out of them early. (They also handed out plenty of copies of MSC.) AISC's table featured a sculpture of sorts, made from recycled machine shop scrap metal turnings, and a 4-ft-long wide-flange steel section. Both had architects commenting on the "art" of the material, and passersby couldn't resist touching the shiny, curly, pointy scrap sculpture. A toy erector set display mimicking a steel framing system was also a hit.

Next year's Greenbuild show takes place Nov. 11-13 in Phoenix. For more information, visit www.greenbuildexpo.org.

The exhibition hall itself was a showcase of structural steel.



What is it? This unusual "sculpture," created from steel scrap, drew plenty of visitors to AISC's booth—as did the free Slinkies.



CERTIFICATION

Draft Certification Standard Now Available for Public Review

AISC and the Society for Protective Coatings (SSPC) invite a second public review and comment on a draft *Certification Standard for Shop Application of Complex Protective Coating Systems (Enclosed, Covered, or Open Shop)*. The review period for the draft standard begins January 6 and concludes January 27. This standard has completed balloting by the AISC Certification Committee and the SSPC Shop Certification Committee. A copy of the approved draft standard, dated December 9, 2008, is available from the "News" section of the AISC website at www.aisc.org with instructions for submitting comments.

The *Certification Standard for Shop Application of Complex Protective Coating Systems (Enclosed, Covered, or Open Shop)* describes requirements for certification of firms that shop-apply complex painting systems. Certification to this standard will confirm to owners, the design community, and the construction industry that a firm has knowledgeable personnel and the organization, experience, procedures, and equipment to provide surface preparation and application of complex painting systems in a shop facility according to contract specifications.

This second review period provides

individuals and organizations that may be affected by implementation of this standard an opportunity to share concerns and offer value-enhancing suggestions and recommendations on changes made since the first public review, which concluded last February. The draft available from AISC's website includes indication of the substantial changes made since the first public review. Comments submitted during this second public review period will be given full consideration by AISC and SSPC.

Until the standard and corresponding certification program is finalized, AISC will continue to offer its Sophisticated Paint Endorsement (SPE), and SSPC will continue to offer its QP 3 program. For additional information about AISC and SSPC certification programs, please call or write:

AISC Certification
One East Wacker Drive, Suite 700
Chicago, Ill., 60601
312.670.7520

certinfo@aisc.org

SSPC Shop Certification Program
40 24th Street, 6th Floor
Pittsburgh, Pa., 15222
412.281.2331

damiano@sspc.org

CONTINUING EDUCATION

February Education Seminars

AISC's continuing education spring 2009 seminar series kicks off in February and will run through June. This season's offerings feature four returning topics and two newly developed seminars, including: Intelligent Design! Low-Rise and Mid-Rise Buildings; Seismic Connections, Listen to the Steel: Duane Miller on Welding; and 2005 AISC Specification Manual. Please visit www.aisc.org/seminars to find out more about the topics and to view the full spring schedule. The February seminars are:

**Intelligent Design!
Low-Rise and Mid-Rise Buildings**
2/10 Jacksonville, Fla.

Seismic Connections
2/12 Chicago
2/26 Cincinnati

**Listen to the Steel: Duane Miller on
Welding**
2/17 Boston
2/19 New York

2005 AISC Specification Manual
2/19 Houston
2/26 Las Vegas

ENGINEERING JOURNAL

EJ Call for Papers



AISC is always looking for *Engineering Journal* articles on interesting topics pertinent to steel design, research, and fabrication methods, or new products of significance to the uses of steel in construction. We

are especially seeking technical articles with practical applications in the steel industry. If you have a new idea or an improvement on an old idea, please submit a paper to AISC for publication in EJ. Please send your paper in duplicate to:

Engineering Journal
Editor, Cynthia Duncan
AISC
One East Wacker Drive, Suite 700
Chicago, Ill. 60601
duncan@aisc.org

Detailed information on our review process and requirements for submittals can be found on the inside back cover of each EJ issue.

In addition, all published papers are eligible for the Best EJ Paper of the Year award. Go to www.aisc.org/ejsurvey to cast your vote for the best EJ paper of 2008 and become eligible for a free trip to the 2009 NASCC: The Steel Conference, held April 1-4, 2009 in Phoenix. A drawing will be held next month and the winner will be contacted at that time.

All articles published in EJ in 2008 are included in the survey (excluding discussions of previously published papers). Besides the winning voter, the winning author will also receive free registration to the 2009 NASCC, as well as round-trip airfare and a one-night stay at the conference hotel, where the conference will be held and the award will be presented.

Cast your vote today! Votes will not be accepted after February 8, 2009.

ENGINEERING JOURNAL (continued on next page)

First Quarter 2009 Article Abstracts

The following papers appear in the first quarter 2009 issue of AISC's *Engineering Journal*. EJ is available online (free to AISC Members) at www.aisc.org/epubs.

Optimum Flexural Design of Steel Members Utilizing Moment Gradient and C_b

Abbas Aminmansour

Flexural strength of members based on the limit state of lateral-torsional buckling is a function of the moment gradient of the unbraced length under consideration. Bending modification factor, C_b , accounts for the shape of the moment gradient within the unbraced length and allows for adjustment of the member flexural strength, possibly increasing it by a considerable amount. Therefore, neglecting the impact of C_b on member strength may lead to over-design. This paper discusses application of C_b to design of members subjected to bending including beams as well as members subjected to combined loading (compression and bending, tension and bending, or biaxial bending). Numerical examples are presented using both ASD and LRFD methods.

Topics: Beams and Flexural Members, Stability and Bracing, Combined Loading

Design Aids for Built-Up I-Shaped Beams with Slender Webs

Paul P. Nasados, Jr.

Available Strength Tables for I-shaped beams with slender webs for the limit states of flexure and shear are presented. The tables were prepared in a format similar to the design aids available in the 13th edition AISC *Steel Construction Manual*. The generation, applicability and limitations of the tables are discussed. An example is presented to demonstrate the usage of the Available Strength Tables.

Topics: Beams and Flexural Members, Built-Up Members, Stability and Bracing

A Model Specification for Stability Design by Direct Analysis

R. Shankar Nair

This paper presents a model specification for stability design by direct analysis. It is based on the stability provisions of the 2005 AISC *Specification*, rewritten around the Direct Analysis Method alone. The material is presented in the language and format of the AISC *Specification*, including "User Notes" and the italicizing of terms listed in the glossary where they first appear in a section. The focus on a single method has offered the opportu-

nity to expand some of the provisions beyond what is in the current AISC *Specification*, both to improve clarity and to address issues that have arisen from use of the document. Where this involved substantive changes, they are explained in an appendix to this paper (Appendix A). A second appendix (Appendix B) outlines the purpose or physical significance of each of the important steps in the Direct Analysis Method by showing the correlation of these steps to the basic requirements for design of structures for stability. The "traditional" Effective Length Method is included in the correlation to show how that method differs from the Direct Analysis Method. A third appendix (Appendix C) provides guidance to the user on the modeling of structures for the application of the Direct Analysis Method.

Topics: Analysis, Specifications

The Effect of Selected RFI Variables on Steel Fabrication Performance

Thomas M. Burns

The steel fabrication process depends upon documentation that is often in need of clarification due to issues involving completeness and coordination. Clarification is obtained by the steel fabricator through the request for information (RFI) process, which allows the shop drawing production process to continue forward. The volume of requests for information sought, as well as time required to receive clarification, are just two of many variables that may influence shop drawing production as well as subsequent fabrication activities. This research identifies specific RFI variables and their significant relationship with shop drawing production and fabrication duration performance. Data from 48 projects were collected from steel fabricators throughout the United States. Regression techniques identified two variables, the RFI performance indicator and the average RFI response time, as significant predictors for both shop drawing production and fabrication duration performance measures. Within the 48 projects studied, approximately 25% of the performance variability in shop drawing production was explained by these two variables. The generalized model developed from these results may be applied by individual steel fabricators interested in performance improvement through RFI management. Project databases using RFI metrics could benefit fabricators by establishing performance thresholds while also providing engineers with a quality service indicator.

People and Firms

- **Macsteel Service Centers USA** (AISC Member) recently expanded its business operations with the opening of a new 100,000-sq.-ft service center in Portland, Ore; a formal plant opening and ribbon-cutting event is planned for the spring of 2009. The Portland plant will service the Pacific Northwest region including Oregon, Washington, and Idaho. The service center will process and stock carbon, stainless, and aluminum flat-rolled and wide-flange beams. Future plans call for the product line to include channels, angles, tubes, and plates.
- **MG Systems & Welding**, a manufacturer of thermal cutting gantry machines, announced the promotion of Milo Nezval to the position of project engineer. In this new position, Nezval will be the engineering liaison between the Menomonee Falls, Wisc. plant and parent company Messer in Gross Umstadt, Germany.
- The **Green Building Certification Institute** (GBCI) announced that Peter Templeton will assume the new role of president of GBCI. In his leadership role at the U.S. Green Building Council (USGBC), Templeton was vital to the early development of the LEED green building certification system, the launch of the LEED Accredited Professional (LEED AP) program, the expansion of USGBC's educational programming, and the successful spin-off of GBCI earlier this year.
- Structural engineering firm **Ruby + Associates** has transitioned its management to the second generation of the Ruby family. Jay Ruby, son of founder David Ruby, now serves as president and CEO, and his sister, Tricia (Ruby) Huneke, will act as COO and CFO. David is now Chairman.
- **Multivista LLC**, a leading construction documentation company, announced the opening of Multivista Dallas. The company has

had more than 20,000 documented commercial and residential projects in the U.S. and internationally in the last five years.

- **Thornton Tomasetti, Inc.** announced the promotion of Yi Zhu to senior vice president/principal in the firm's Shanghai office. Zhu joined Thornton Tomasetti in 1994 and has gained extensive experience in the structural analysis, design, and review of various building types, including high-rise residential buildings, mixed-use complexes, commercial buildings, and long-span structures.
- Kevin J. Hilton has been promoted to the position of senior vice president, representing **The Association of Union Constructors** (TAUC) and the **National Maintenance**

Agreements Policy Committee (NMAPC). Hilton has assumed a number of internal operational leadership responsibilities, as well as an increased policy development role.

- **Walter P Moore** has once again received top rankings in the annual ZweigWhite "Best Firms to Work For" competition. The firm's Civil Engineering group received highest honors: #1 "Best Civil Engineering Firm to Work For" (for all civil engineering firms) and #1 for mid-size civil engineering firms. Its Structural Engineering group also received two distinctions: #2 "Best Structural Engineering Firm to Work For" (for all structural engineering firms) and #1 for large structural engineering firms.

ENGINEERING JOURNAL (CONTINUED)

First Quarter 2009 Article Abstracts

Topics: Fabrication, Quality Assurance and Control, Economy (Cost)

Current Steel Structures Research

Reidar BJORHOVDE

This regular feature of the *Engineering Journal* provides information on new and ongoing research around the world. In the 17th installment, research projects are summarized on the following topics: Sustainability of Steel Structures (University of Coimbra, Coimbra, Portugal), Seismic Design and Analysis of Rectangular Concrete-Filled Steel Tube Members and Frames (University of Illinois, Urbana, Ill.), Market Opportunities for Innovative Fastening Solutions for Steel Structures (University of Coimbra, Coimbra, Portugal), Size Effects in the Fatigue Behavior of Tubular Bridge Connections (Federal Institute of Technology, Lausanne, Switzerland), A Methodology for an Integral Life Cycle Analysis of Bridges in View of Sustainability (University of Coimbra, Coimbra, Portugal), and Load Rating of Curved Composite Steel I-Girder Bridges through Load Testing with Heavy Trucks (University of Minnesota).

Topic: Research

GALVANIZING

Sustainable Solutions

The American Galvanizers Association has announced the release of *Sustainable Solutions for Corrosion Protection*, an informative brochure detailing new research regarding the strength and sustainability of hot-dip galvanized steel in the alternative energy market.

Sustainable Solutions explores how using hot-dip galvanized steel in biofuel, wind, hydroelectric, and solar structures not only protects them from the effects of corrosion, but also is highly sustainable and earth-friendly. Highlighting the inevitability of corrosion, this brochure stresses the importance of making intelligent environmental and economic decisions, supported by real-life case studies from each sector of the alternative energy market. It also explains how the natural, recyclable zinc coating created in the galvanizing process will provide superior corrosion protection without requiring the costly carbon footprint of maintenance.

Request a free *Sustainable Solutions* brochure and see how galvanized steel can protect your investment in alternative energy. If you have any questions or are interested in obtaining a brochure, please contact AGA marketing coordinator Jenny Clawson at 720.554.0900 x15 or jclawson@galvanizeit.org.

CONSTRUCTION MARKET

Nonresidential Construction Continues Decline

The fourth quarter (2008) FMI Nonresidential Construction Index (NRCI) survey was conducted, as the financial crisis moved from Wall Street to Main Street. The results of the construction management consulting provider's quarterly survey of construction industry executives show the effects of the troubled financial markets now spilling over to the nonresidential construction sector. The NRCI dropped 10.6 points to 34.1 since the third quarter. Panelists also indicated they expect significant declines in municipal construction budgets due to financing difficulties and reduced tax receipts for 2009. Uncertainty in the markets and further delays and cancellations will mean lower revenues for contractors working in the nonresidential construction sector for 2009. Highlights of the NRCI included:

- 85% of panelists reported the overall economy as worse than last quarter
- 71% of panelists agreed that the economy in their geographic regions was worse than last quarter, an indication that

there are few corners of the country now bucking the national economic trends

- Until the fourth quarter, panelists' business looked better than the national and regional business scenes. As of the fourth quarter, only 4.6% said their business has improved over last quarter
- The "cost of materials" component of the NRCI made a significant improvement to move the component score above the neutral range of 50.0 to 53.4, signaling lower material costs for the near term
- Labor costs slightly improved, as 22% of panelists reported higher labor costs compared with the previous quarter
- 20% of panelists expect revenues to be as much as 16% or more lower for 2009 due to the turmoil in the financial/credit markets
- 32% of panelists expect municipal budget cutbacks for 2009 of 5% to 10%

letters

Aggravated by Acronyms

Upon receiving my November issue of MSC, I noted the cover title "A Healthy Dose of BIM." I work for an engineering firm that provides heavy industrial design to the local industries. I had never heard of BIM, so I immediately turned to the table of contents to look for the article. The first article I noticed was titled "BIM and Beyond." I turned to that article, scanned it to find the meaning of BIM, and could not. I turned back to the TOC, found another article under the heading "BIM" titled "Technical Solutions are Just the Half of It," turned to it, and still could not find the meaning of BIM. (I have a particular aversion to acronyms and was becoming somewhat frustrated.) Once again, I returned to the TOC, found another article that men-

tioned BIM in the description, and turned to it. Finally, in the second paragraph, I found that BIM stands for "building information modeling."

I would like to suggest that whenever an acronym is going to be used in an article, that it be defined the first time it is used in each article. Not everyone that receives the magazine designs buildings. We design a lot of steel and almost no buildings. We are using 3D modeling for the structures we design, which include piping and equipment. I guess this is similar to BIM but without the building.

I enjoy the magazine and look forward to it coming every month, even if I don't always have time to read it thoroughly.

Rick Goad, P.E.

The Right People for the Job

I've been subscribing to MSC for a few years now and I've always enjoyed Scott Melnick's editorials.

His recent one relaying Howard Putnam's comments [on hiring practices] (10/08) really struck a chord with me, as much of my time over the last three years has been trying to hire the right people. These are all excellent points.

I just wanted to let you know that your work is relevant and appreciated. Great job, and please keep up the good work!

Sam DeFranco
Engineering Authority
BP America, Inc.