"It's not enough in today's world to know that what you are doing works... It is critical to know why it works."

— Kendall Hoyd,SBCRI President

SBCRI: A World-Class Facility Revealed

by Emmy Thorson-Hanson

"In God we trust... all others bring data."
—W. Edwards Deming

Thursday, June 28 was an ideal summer day in Wisconsin. The sun was shining, the sky was a brilliant blue, and an historic event was taking place on Enterprise Lane in Madison.

Over 100 members of the structural building components industry gathered that day for the grand opening of the Structural Building Components Research Institute (SBCRI). Members of the industry traveled from as far as California to attend the highly-anticipated open house and to seize the opportunity for a sneak peek. Construction began on the facility in November 2006, which will house critical testing projects that examine the integrity and cost efficiency of structural building components.

Rick Parrino (Plum Building Systems) shared why he was eager to witness this long-awaited event. "I had to come see [the facility] to try to grasp what our capabilities are here." Ben Hershey (Alliance TruTrus, LLC) explained why the nearly 1800 mile trip was well worth it. "I was excited about the opportunity to see the fruit of WTCA's labor in building a state-of-the-art facility that will allow us to work with TPI, other associations, insurance companies, and industry groups to further the use of structural building products."

Industry suppliers also had a presence at the ceremony. "MiTek considered it a privilege and honor to be there for the grand opening. As a charter member of TPI, we wanted to share in the festivities that launched what will substantially be a joint effort to advance our industry," said Tom Manenti (MiTek).

WTCA President Barry Dixon (True House, Inc.), TPI President Tom Whatley (Eagle Metal Products), SBCRI President Kendall Hoyd (Idaho Truss & Component Company), and WTCA Executive Director Kirk Grundahl, each took a few moments during the ribbon cutting ceremony to talk about the impact the facility will have on the industry. "It's not enough in today's world to know that what you are doing works...It is critical to know why it works," proclaimed Hoyd during his invigorating speech.

at a glance

- The grand opening of SBCRI took place on June 28 in Madison, WI.
- Attendees were amazed at the capabilities and potential of the new facility.
- Component manufacturers and suppliers agree that SBCRI is long overdue and will play a huge role in the future of the structural building components industry.

Need for Change

There is no doubt that SBCRI is going to guide us through uncharted territory.

Art Hernandez (Eagle Metal Products) said the 5,730 sq.ft. facility will greatly improve the industry's credibility. "Right now there are too many questions and not enough answers. This is a step in the right direction toward the future."

Ed Robbins (Robbins Design Service) looks forward to what design professionals have to gain from the ground-breaking research to be done at SBCRI. "This will give us (as engineers) more confidence. Until now things have been based on experience rather than physical analytical data. Now we will have data to back up our engineering."

Richard Brown (Truss Systems Inc.) explained that in his company's market, hard data and a fresh body of knowledge will lead to the next generation of growth – the overarching goal of SBCRI. "In our marketplace it is still more common to use stick framing than trusses. This will go a long way to verify that trusses are the way to go and it will prove our capabilities."

For others, proving what we think we know about our products in a very scientific manner is a thrilling prospect. "I'm excited about testing things like 'chunk-out.' [Testing and analyzing lumber stresses] will further prove and clarify our theories. It's pretty awesome," said Clyde Bartlett (Bluegrass Truss).

Casey Carey (Carter Components) points out how the facility will help with code interpretation. "You have one person's opinion and another person's opinion," he said. "There's an old saying that I heard a long time ago: There's your way, there's my way, then there's the right way. Now we have a means to test the right way."

The flexibility of SBCRI to accommodate testing many different materials – trusses, wall panels, engineered lumber, fiber reinforced products, field repair methods and cold formed steel – is revolutionary. People like Mike Noonan (Cascade Mfg Co) anticipate that the ability to test cold-formed steel

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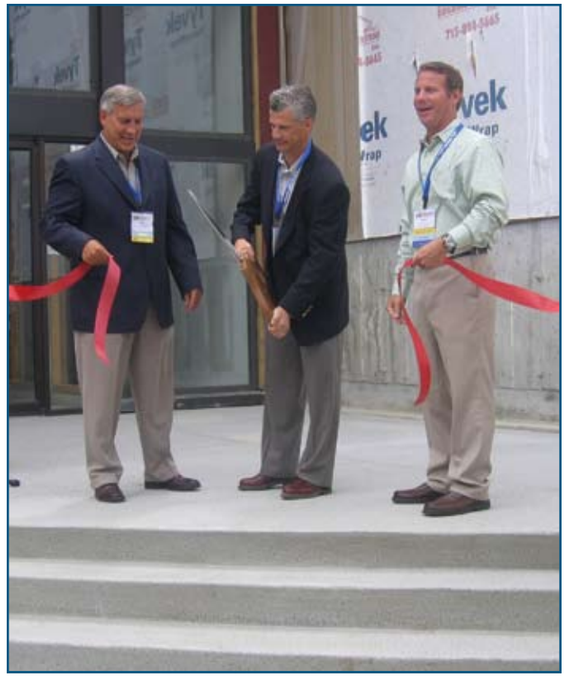

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trusses in the facility will facilitate greater acceptance of the product. "Tests can show, yes, this product works and is cost effective," he said.

Dixon noted the potential environmental impact of the facility. "Right now this industry is starting to look at renewable resources and green building. But to make those things work you have to be able to reduce costs on the structural side." That requires inventing new processes and understanding the entire structure and how it all works together. And now that we have that ability, "that's huge."

Back to the Future

With a ceiling height of 38', SBCRI allows for full-scale testing and analysis in a real-world environment. The standard widths range from 4' to 18', standard heights range from a 10-inch floor system to a 20-foot high series of floors, walls and a roof. The standard length can range from 4' to 90' long and the maximum area available for testing is 30 feet wide x 32 feet high x 90 feet long. The facility has custom designed software that will allow loads to be applied on the input side, or the load coming in from the actuators, in pounds or the length of the actuator (which causes displacement). It can also record the output loads with a series of digital scales throughout the infrastructure that measure deflection or strains up to 100 times per second. This computer technology allows detailed information to be available for analysis.

The scope of the technologies contained within SBCRI – and its sheer size – impressed the industry pioneers in attendance. The elaborate facility left a lasting effect on the Finnforest team. Jim Gilleran declared that "The technology in the facility is just marvelous," and Jack Palacio commented that "It's mind boggling to see them perform these tests with a little handheld device. Testing has come a long way."

Both Gilleran and Palacio have worked in the industry since its early days, a time when this type of testing seemed impossible. "I never expected to see testing evolve this much. When we first tested trusses we piled cinder blocks on the trusses to see how much load weight they could carry before failure," said Palacio.

Stark Truss Company patriarch Abner Yoder was amazed. "It's such an innovative idea to test a whole system, not just one truss. Over time I've learned a lot, but I never thought I'd see this."

A League of Its Own

After the ribbon cutting, attendees went on tours through the brand-new state-of-the-art facility. Inside the facility, attendees saw a single truss testing assembly as well as a full system assembly (30-feet long x 12-feet wide x 16-feet tall). They also got to look at the control software which shows

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The Dawn of a New Age for the Structural Building Components Industry

WTCA's SBC Research Institute officially opened its doors in June, marking the dawn of a new age for the structural building components industry. The 5,730 square-foot facility advances the industry's goal of developing a fresh body of knowledge that will add new value to the industry and lead the next generation of industry growth.

The SBC Research Institute offers the industry the ability to test:

- Standard design loads on a single component
- Drag and shear loads on a single component
- Standard design loads on a system of components
- Drag and shear loads on a system of components, both parallel and perpendicular to the components
- Unbalanced and bidirectional wind loads
- Simulated wind uplift loads
- Cyclic loading at application points from the foundation to the peak of the roof
- Any point loading condition that a building could possibly have applied to it
- Loading applied in 3 axes simultaneously, to simulate both construction and environmental loads

Thank you to our SBC Research Institute sponsors for helping foster this new age for the industry.

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load development and allows users to view test data in real time to directly track test performance.

"I was impressed by the hand-held controls and how everything is done digitally," said Hernandez. "I was impressed by the overall size and capability of the facility. Being able to test a cyclical load on each axis is unique. Nothing like this has been done before," commented Robbins.

For attendees who had been to other testing facilities, the consensus was that all others paled in comparison. According to Noonan, "This [facility] has much more scope and breadth. It will allow a lot more diversity, [as far as] what we can do and how. It takes it to a different level of sophistication."

Testing of a Different Color

SBCRI will take testing to another level because its purpose is purely to advance the industry. "This size is impressive, but the best part goes beyond just its size. The people that put it together made it unique. I knew there was a move to get it done. The concept to reality – the vision has come true," said Bruce Bain (Richco Structures).

Brown agrees that the efforts of the SBCRI are unparalleled. "Up until now testing has only been done on a proprietary basis, to prove an individual company's product." With knowledge as the driving force/incentive behind testing, rather than money, the facility is truly unbiased and pure in its initiatives.

According to WTCA President Barry Dixon, the facility is in good hands: "What will really separate SBCRI from any other testing facility in the world is that the staff is so educated

"I had been here two to three months ago and had an appreciation for the facility's size. I didn't have an appreciation for the mass of the steel testing framework, especially the vertical columns and the flexibility of the system, until I saw the holes in the ground, and the variety of set-ups possible. There aren't any limitations. We have to show people this facility. The investment is incredible."

—Steve Cabler, P.E.,
MiTek Industries, Inc.,
Chesterfield, MO

Attendees were asked to fill out an evaluation form immediately after they toured the facility. Here are a few of the responses we received to a pair of questions about their before-and-after thoughts.

Evaluation: What did you think you would see prior to the tour?

R.E. Franklin: Much less.
Warren Bracken: A typical testing facility.
Wayne Jewell: A test facility without the flexibility I did see.

What was your first impression of what you saw after the testing portion of the tour was completed?

R.E. Franklin: How far the truss industry has come. I started 8/61.
Warren Bracken: An extraordinary testing facility with limitless possibilities.
Wayne Jewell: Great versatility! I'm excited at what this facility will provide.

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What Did Your Peers Have to Say After the Tour?

"I've never seen anything quite like this." Warren Bracken

"It's an impressive facility. I was surprised by the magnitude of what can be tested. It just blows you away." Tom Whatley (TPI President, Eagle Metal Products)

"I liked what I saw. It's something we have been in need of for a long time." Richard Brown (Truss Systems Inc.)

"It's massive, but flexible. Very amazing." Linda Bouford (Finnforest USA)

"I think the size of it, first, is overwhelming. You picture it being big, but it's even bigger. Even seeing all the pictures and everything, it's a much bigger facility than I expected." Rick Parrino (Plum Building Systems)

"The SBCRI will definitely take on a leadership role."

—Richard Brown, Truss Systems, Inc.

"I think the greatest thing about the facility is the flexibility it offers."

—Jack Palacio, Finnforest USA

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and so dedicated to having successful results. They're very results-driven, and their focus is clear."

The Future Just Got Brighter

As the day wound down attendees gathered outside for more snacks and desserts while discussing the impact of the event they just witnessed. Joe Hikel commented on how he thinks the industry will grow compared to its progress in the past. "I predict a lot more will happen than in the last 50 years. We'll be able to do our jobs better, faster, cheaper, and completely revolutionize the industry. We'll save costs. We'll eliminate the rules of thumb with real data."

Mike Cassidy (TPI) also anticipates great things down the road. "I think that our testing capabilities will allow us to better understand how entire systems work differently than individual components."

"It's just amazing. This industry has provided everybody here with a means and a livelihood to do the things we want to do. WTCA came in to help us to promote the industry and to bring leadership," shared Carey. "And now, we are going to be able to give back to the people by giving them facts. We're discovering truth here."

Gilleran made an interesting analogy comparing the uncharted territory of the industry to the uncharted maps and seas in the days of Christopher Columbus. "Today the world is flat. SBCRI could have a global effect." Koss Kinser sums it up. "This is just the beginning." And what a great beginning it is. **SBC**

Visit the SBCRI website at www.sbcri.info to stay up-to-date with everything going on at the facility. And remember, the door is always open for a personal tour – just let us know when you would like to drop by!

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The mission of ***Structural Building Components Magazine (SBC)*** is to increase the knowledge of and to promote the common interests of those engaged in manufacturing and distributing of structural building components to ensure growth and continuity, and to be the information conduit by staying abreast of leading-edge issues. SBC will take a leadership role on behalf of the component industry in disseminating technical and marketplace information, and will maintain advisory committees consisting of the most knowledgeable professionals in the industry. The opinions expressed in SBC are those of the authors and those quoted solely, and are not necessarily the opinions of any affiliated association (WTCA) .

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