

The Changing Face of the Joist Market

BY TOM KLEMENS, P.E.

With more than ample production capacity from coast to coast, joist makers look forward to a resurgence of construction activity.

IT HAS BEEN A ROUGH couple of years for joist makers. That's not to say that it hasn't been a tough time for construction across the board and the national economy in general. But the slowdown in constructing the type of structures for which steel joists present a good option—warehouses and big box retail stores, for example—was a harbinger of the current economic doldrums. Rather than being overtaken by a new technology, steel joist use has waned simply because the market, for a time, has dried up.

Fortunately, the industry has a long history of providing a strong, economical solution for supporting roofs and floors, and is poised and ready for the future. Although the number of joist makers has shrunk considerably in recent years, most of that has been the result of consolidation into a few large players and a handful of independent firms, leaving capacity intact.

Today most of the primary manufacturers of open-web steel joists are actively involved in the Steel Joist Institute (SJI), which was formed in 1928, just six years after the founding of AISC. One of its primary purposes, much like that of AISC, was to organize the industry to allow designers to select from more easily comparable products.

Today SJI publishes a variety of documents to assist in the design and construction of projects using steel joists. SJI's *Catalog of Standard Specifications, Load Tables and Weight Tables for Steel Joists and Joist Girders* is now in its 42nd edition, with a new edition scheduled for release in 2011. As evident from its name, the SJI *Catalog* is a fundamental source for steel joist information in much the same way as the AISC *Manual* is for the structural steel fabrication industry.

The current *Catalog* includes specifications and load tables for three standard joist types and the *Code of Standard Practice for Steel Joists and Joist Girders*. The 42nd edition *Catalog* is available as a free download from the SJI website (www.steeljoist.org). The new edition also will be a free download.

"The industry is taking advantage of this down time to make sure everything is in order for when the market picks up again," said SJI managing director Robert Hackworth. He also notes that SJI recently has been very active in research. Many of the findings from that research are incorporated into the new joist specifications, and in the *Catalog*. Loads from this new edition also are featured in the new *International Building Code*.

SJI also is expanding its efforts on the educational front. A short video posted earlier this year on the SJI website explains the basics of what an open-web steel joist is and has been very popular. The institute also is preparing its first webinar and continues to present live seminars across the country.

Meanwhile, joist manufacturers are not sitting idly by. Rather, they too are using this period of reduced manufacturing activity to prepare for the future. One of the newer firms, New Millennium Building Systems, has taken advantage of its "fresh start" position by producing its own expanded catalog that offers load tables and specifications for special profile joists. (See "Raising Expectations" in the October 2009 *MSC* at www.modernsteel.com/backissues.)

"Our special joist catalog was introduced as a tool for architects to use joists as cost-effective architectural elements," said

Where to Find SJI Member Companies

- **Canam Steel Corporation**, Point of Rocks, Md. (AISC Member) www.canam-steeljoists.ws
- **East Coast Steel**, Eastover, S.C.
- **Goeder-Henrichsen Company**, Chicago, Ill. (AISC Member) www.goederjoist.com
- **New Millennium Building Systems, LLC**, Butler, Ind. (AISC Member) www.newmill.com
- **Quincy Joist Company**, Buckeye, Ariz. (AISC Member) www.quincyjoist.com
- **Valley Joist, Inc.**, Fort Payne, Ala. www.valleyjoist.com
- **Vulcraft Division, Nucor Corporation**, Fort Payne, Ala. (AISC Member) www.vulcraft.com

More information about these companies, plus information regarding additional SJI member companies located in Canada and Mexico, can be found online at www.steeljoist.org.

New Millennium's president, Gary Heasley. "It's just one of the many advancements under way throughout the industry."

The company also introduced a steel joist digital design BIM tool at the 2010 NASCC: The Steel Conference in Orlando that facilitates incorporating actual joist components within a 3D building model.

Sam Blatchford, president of Canam Steel's U.S. operations and also currently serving as the president of SJI, has had a front row seat to watch the slowdown. Blatchford says steel joist production has fallen off dramatically since the industry's last high. In 2006 and 2007 joist production stood at 1.3 million tons, but dropped 20% in 2008. Then the bottom fell out of the market. For 2010 overall joist production likely will fall short of 500,000 tons.

"There are no joist manufacturers in North America working full bore," Blatchford said. However, most firms report taking this lull to tighten up operations and upgrade facilities. Blatchford says his own firm has done a lot of retooling in preparation for the turnaround in joist demand. And he notes that especially the larger fabricators are "very actively investing in technology."

Looking ahead, Blatchford says the steel joist industry is poised and ready to move forward. He notes specifically that the production capacity is there; technology and efficiencies continue to evolve; and "joists have been a great building product for more than 80 years."

Jim Jepson of East Coast Steel says their business has been way down, just like the larger joist manufacturers and construction across the board. That also has meant a shift in the balance of their production, which is not uncommon. "Recently we're doing more composite joist work," Jepson said. Just two or three years ago that accounted for perhaps a fifth of the company's production. "Now it's probably half or more of our work," he said.

In terms of their standard K-series joists, the company tends toward supplying low-volume projects. "We've always been there to help on the four-ton to five-ton jobs," Jepson said. And particularly in this type of economy, that may be a good thing.

Get to Know the Players

Today the Vulcraft Division of Nucor Corporation is the largest single North American producer of joists. Vulcraft's roots are in Florence, S.C., where the company was incorporated in 1946. In 1962 it became part of what would later become Nucor Corporation. Today it has seven production facilities (in South Carolina, Nebraska, Alabama, Texas, Indiana, Utah and New York), six of which also produce metal deck.

New Millennium Building Systems recently became the second largest North American joist producer when it acquired the joist-making assets of CMC as that firm exited the joist and deck business. A wholly owned subsidiary of Steel Dynamics, Inc., New Millennium was founded in 1999 when a group of former Nucor employees set up a new steel making company and a joist manufacturing company in Butler, Ind. Several years later the firm opened a second joist plant in

Lake City, Fla., and through a merger with John W. Hancock Jr. LLC gained a presence in Salem, Va. It has further expanded into the west and southwest through the recent acquisition of former CMC plants in Hope, Ark., Fallon, Nev., and Juarez, Mexico, which it is reconfiguring and plans to soon return to production.

Number three in joist production is Canam, founded in 1960 in Quebec to fabricate steel joists. A sales office was incorporated in Massachusetts just two years later. Over the years the company has acquired a number of steel joist manufacturers, including Canam Sales Corporation of Boston (1983), Midwestern Joists (1984), Standard Joist Corporation (1986), Steel Joist of Indiana, Inc., (1988), Sun Joists (1997) and others. Today Canam's U.S. joist operations include facilities in Washington, Missouri, Illinois, Florida, Maryland and New Jersey.

Those three firms constitute the largest members of the Steel Joist Institute. Four other U.S. firms also are SJI members, along with several Canadian and Mexican facilities.

Perhaps the smallest SJI member, East Coast Steel opened its doors in 1976 in the town of Eastover, S.C. Today the company produces K-series joists as well as a proprietary composite joist that forms the basis for a design-build system headquartered in the northeast.

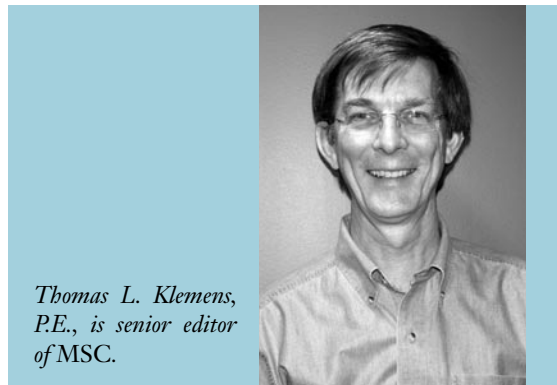
Chicago-based Gooder-Henrichsen dates back to 1927 and today remains an independent company devoted exclusively to the manufacture of open-web steel joists and joist girders.

Valley Joist, Inc., another relative old-timer in the industry, started out as a small joist manufacturer in 1958. It became a part of EBSCO, which stands for the Elton B. Stephens Company, in 1974. The company opened a second plant in Fernley, Nev., in 1998.

Quincy Joist Company began in Arizona in 1979. Today Quincy Joist has locations in Quincy, Fla., and Buckeye, Ariz.

Open-web steel joists continue to offer the construction industry an economical and effective design option. And joist manufacturers remain committed to making sure that option remains viable.

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