STRUCTURAL BUILDING
COMPONENTS™
THE FUTURE OF FRAMING

May 2008

www.sbcmag.info

design & engineering

Cold-Formed Steel Helps Achieve LEED

New & Improved: ANSI/TPI 1-2007

...and much more!

Framing the AMERICAN DREAM®

CHANGE SERVICE REQUESTED

SBC Magazine • 6300 Enterprise Lane • Suite 200 • Madison, WI 53719

READY TO HEAR SOME GOOD NEWS AT LAST?

LISTEN TO OUR CUSTOMERS.

INNOVATIVE EQUIPMENT

"PLANX allowed us to gain market share and increase productivity in a shrinking market, and we believe that it will make us stronger when the market returns."

Tom Hollinshed
ComTech

INTEGRATED SOFTWARE

"Upgrading to the MiTek equipment and MVP software has grown this facility from an 8 million dollar plant to a 20 million dollar one."

Chad Jordan, pictured with Greg Griggs (left)
Stock Building Supply

LABOR-SAVING PRODUCTS

"Once customers see for themselves what a great installation tool they are, most say 'Never send me another job without Stabilizers.'"

Brent Barber
Southeastern Truss, Inc.

EXPERIENCED ENGINEERS

"On The engineering side, MiTek has improved our business. It's definitely a partnership. Whenever we've needed MiTek's involvement, they have been there 100%."

Thomas Poirier
Truss Tech, Inc.

Let us show you how the Federal Stimulus Package can help you defray the costs of upgrading your equipment:
www.mii.com/automationcells

No cost and online training makes MiTek software an even more powerful, cost-effective tool for your business:
www.mii.com/plantsoftware

Enroll to become a member of our Stocking Dealer Registry or to host a Live Clinic for your customers:
www.mii.com/righttool

What can MiTek Engineering do to help build your business success? Find out:
www.mii.com/engineeringservices

It's no secret that market conditions are tough, but that doesn't mean your only option is to wait for the storm to blow over. Instead, put to work what so many MiTek customers already know: Whether it's automated component fabrication equipment, integrated software, professional engineering services, or connector and bracing products, MiTek makes the tools you can trust to help you move from surviving — to thriving — in this challenging economic climate. **1-800-325-8075 www.mii.com**

MiTek®

STRUCTURAL BUILDING COMPONENTS™
THE FUTURE OF FRAMING
May 2008 • www.sbcmag.info

contents

LOOK BEFORE YOU LEAP

These companies provide significant sponsorship of the structural building components industry. Many thanks for their ongoing support!

For more information about our 2008 Program Advertisers or advertising in general, visit the SBC website at www.sbcmag.info or call 608/310-6706.

2008 Gold Advertisers

(Appearing in all 9 issues)

A-NU-Prospect*
BCMC*
Clark Industries*
Commercial Machinery Fabricators*
Eagle Metal Products*
Holtec (USA) Corporation*
Hundegger USA LC*
ITW Building Components Group Inc. – Alpine Engineered Products*
ITW Building Components Group Inc. – Intelligent Building Systems*
ITW Building Components Group Inc. – Truswal Systems*
Klaisler Manufacturing Corp.*
The Koskovich Company*
Lakeside Trailer Manufacturing*
MiTek Industries, Inc.*
Monet DeSauw*
MSR Lumber Producers Council*
Open Joist 2000 Inc.*
Panels Plus*
Pratt Industries*
Qualtim, Inc.*
Simpson Strong-Tie Co.*
Southern Pine Council*
Stiles Machinery, Inc.*
Viking – Wall Panel Systems*
Wood Truss Systems, Inc.*
WTCA*

2008 Silver Advertisers

(Appearing in at least 5 issues)

Eide Machinery Sales, Inc.
Finnforest USA*
Nuconsteel
Pennsylvania Lumbermens Mutual Insurance Co.
Princeton Delivery Systems
SL Laser Systems LP
TCT Manufacturing, Inc.
Triad/Merrick Machine Co.*

2008 Bronze Advertisers

(Appearing in at least 3 issues)

JR Herring Enterprises
Manitou North America, Inc.
PFP Technologies
Trim Fit LLC
Wasserman & Associates, Inc.

*Indicates Charter Advertiser Status • Listing based on contracts received as of 3/03/08.

STRUCTURAL BUILDING COMPONENTS™ THE FUTURE OF FRAMING

Editor's Message

Ensuring the Long-Term Sustainability of WTCA

by Bob Becht

An important message about the current state of the association.

I don't have to remind you that 2007 and 2008 thus far have presented some extremely difficult circumstances for members of this industry. We've all done what we need to do to survive, and we've had to come to terms with the fact that we cannot do anything to undo these conditions.

However, we can influence how WTCA reacts to the current conditions of this market. This involves making some important decisions now that will ensure the long-term sustainability of the association. With this article I'm hoping give you a better understanding of how the response of each our members can affect the health of WTCA in the long run.

A critical piece of this discussion is understanding who WTCA is. We are a member organization whose regular members include wood and steel component manufacturers, many of whom also distribute engineered wood products and other building materials. Our supplier and professional members sell raw materials, equipment, professional services and a variety of products that enhance our industry. All of us are served by an outstanding staff. Since WTCA's inception, the organization has had no employees. Starting in 1992, WTCA has contracted at very favorable hourly rates with Qualtim, Inc. to execute the priorities set by the WTCA Board. Qualtim staff has served us so well and made the work of WTCA such a high priority that many of us probably think of them as WTCA employees.

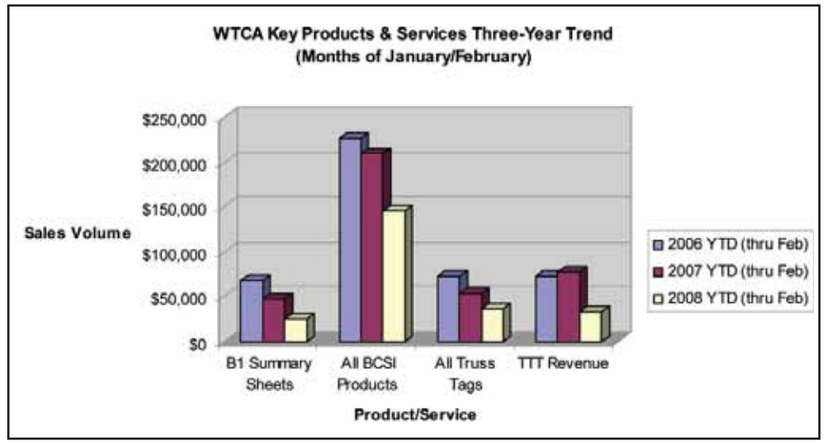


Figure 1.

at a glance

- In 2008, WTCA has made some difficult budgetary and staffing choices to weather the housing downturn.
- Qualtim, Inc.'s fiscal management of WTCA has allowed the association to stay within budget.
- A WTCA "sales committee" has been formed to raise the sales associated with BCMC exhibiting and attendance, WTCA products and services and ***SBC*** advertising.

Even before the housing market decline beginning in 2006, the WTCA Executive Committee has been carefully monitoring the organization's financial situation. Since the late 1990s, WTCA has relied heavily on revenue from the sale of its publications and online training programs, like BCSI Jobsite Packages and TTT Online. This was a policy executed by the Board to move toward becoming less dues-driven and more focused on providing many tangible products and services to its members. Members who choose to take advantage of these programs and services pay for them. The Board believes that this approach will assure WTCA's continued value to its members and the marketplace over time.

However, in the past year, as you well know, many component manufacturers' job backlogs are dwindling. With many of WTCA's products and services being tied to the component jobs you ship, as well as the new employees you hire and train with WTCA programs, the sales of WTCA publications and online training in 2007 and 2008 are down significantly compared to 2006. The examples of "WTCA best sellers" shown in Figure 1 above have suffered as of late:

Continued on page 8

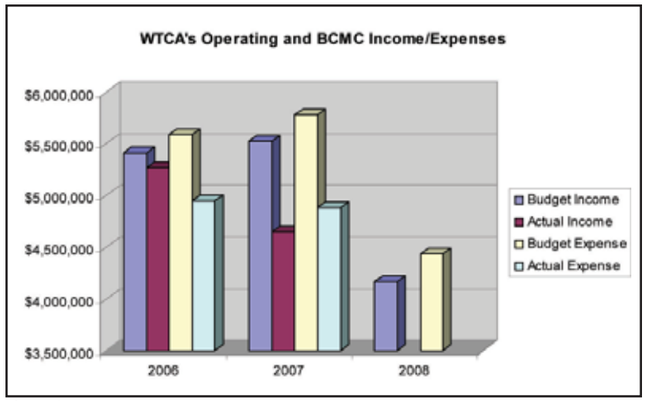


Figure 2.

Editor's Message

Continued from page 7

Clearly, our association is mirroring the "real world" of the downturn in the economy. Because of this, the Board approved a 2008 WTCA budget that is down by 25% compared with 2007 (see Figure 2).

As you can see, Qualtim's fiscal management of WTCA allowed us to reduce our actual expenses, primarily through staff re-deployment to other proprietary work and layoffs, to reflect the trend that was being seen in significantly reduced revenue. No different than what all of us are doing. This work allowed WTCA to stay within budget and within its bylaws to accommodate a more than $800,000 reduction in expected revenue in 2007. Setting the 2008 budget was a difficult process that required taking a hard look at the membership's needs and balancing them with ensuring the long-term health of WTCA. As a result of the significant budget reduction, some projects were reduced or cut entirely. On top of this budget reduction, 2008 revenue through February is down 12 percent compared to our budgeted revenue.

It is of critical importance to note that the long-term sustainability of WTCA is very closely tied to Qualtim. In this challenging environment, it has been necessary for Qualtim staff's priorities to shift. With our substantial budget cuts, as much as possible, in 2008 Qualtim staff will focus on building business outside of its WTCA contract to help take pressure off the WTCA budget first and foremost, and keep the risk of losing staff experience and knowledge at bay. While in the short-term WTCA members may not get the level of service we have come to expect over the years, this approach is to WTCA's benefit, because it enables Qualtim to retain the knowledgeable and hard-working staff that have gained an expertise over the last 16 years of serving our industry. With all this as background, you can see that we are in a delicate spot; if Qualtim staff doesn't exist, WTCA staff doesn't exist.

The leadership of WTCA understands that in the short term, this serves the needs of both organizations best. It is also important to understand, however, that in cases where Qualtim staff is diverted to non-WTCA work, they won't necessarily be able to immediately shift their priority back to WTCA once the economy rebounds.

In addition to committing to an extremely conservative budget, the Board and staff have focused our efforts on items that increase

STRUCTURAL BUILDING COMPONENTS™
THE FUTURE OF FRAMING

Publisher
Truss Publications, Inc.
6300 Enterprise Lane • Suite 200 • Madison, WI 53719
Phone: 608/310-6706 • Fax: 608/271-7006
trusspubs@sbcmag.info • www.sbcmag.info

Editor
Robert Becht
Chambers Truss, Inc. • rbecht@sbcmag.info

Art Director
Melinda Caldwell
608/310-6729 • mcaldwell@sbcmag.info

Managing Editor & Circulation Director
Libby Maurer
608/310-6724 • lmaurer@sbcmag.info

Editorial Assistant & Staff Writer
Emmy Thorson-Hanson
608/310-6702 • ethorson-hanson@sbcmag.info

Editorial Review
Suzi Grundahl
608/310-6710 • sgrundahl@sbcmag.info

Advertising Sales & Marketing
Peggy Pichette
608/310-6723 • ppichette@sbcmag.info
Jan Pauli
608/310-6746 • jpauli@sbcmag.info
Kirk Grundahl
608/274-2345 • kgrundahl@sbcmag.info

Staff Writers for March
Molly E. Butz • Ryan Dexter, P.E. • Agron Gjinolli, P.E.
Marisa Hirsch • Emily Patterson
Anna L. Stamm • Larry Wainright

Accountant
Mike Younglove
608/310-6714 • myounglove@sbcmag.info

Computer Systems Administrator
Rick Saindon
608/310-6717 • rsaindon@sbcmag.info

Send all ad materials, insertion orders, contracts & payments to:
Truss Publications, Inc.
6300 Enterprise Lane • Suite 200
Madison, WI 53719
Phone: 608/310-6706 • Fax: 608/271-7006
trusspubs@sbcmag.info • www.sbcmag.info

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 structural building components. Further, *SBC* strives to ensure growth, continuity and increased professionalism in our industry, and to be the information conduit by staying abreast of leading-edge issues. *SBC*'s editorial focus is geared toward the entire structural building component industry, which includes the membership of WTCA – Representing the Structural Building Components Industry. The opinions expressed in *SBC* are those of the authors and those quoted, and are not necessarily the opinions of Truss Publications or WTCA.

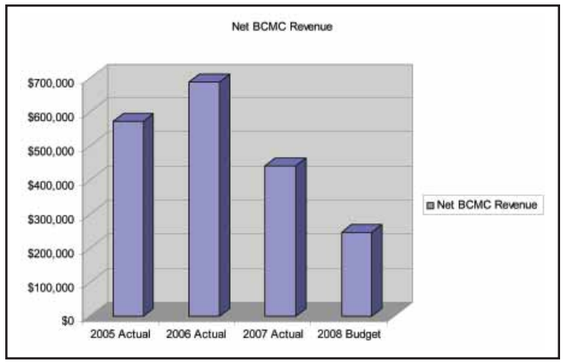


Figure 3.

WTCA revenue. We've formed a "sales committee" under the leadership of President-Elect/Treasurer Ben Hershey, our Membership Chair Frank Klinger and myself, along with the members of WTCA's Board and BCMC committee to bolster BCMC exhibiting and attendance and increasing the sales of WTCA products and services and advertising in ***SBC***. Here are the main goals of these efforts.

BCMC

Each year, the BCMC show generates a significant amount of net income for WTCA. As you can see from Figure 3 above, net revenue was off significantly in 2007 and our budget for this year projects a further reduction in net BCMC revenue.

However, the sales committee's challenge for this year's show in Denver (October 1–3), is to exceed last year's attendance numbers and produce attendee revenue over $300,000 while equaling or exceeding $835,000 in exhibits revenue. Past President Don Groom recently said, "If you spend any money this year, it should be going to or at BCMC." I agree. I urge exhibitors and attendees alike to come to the show and immerse your team in a week of networking and passion for advancing the industry. After a couple of tough years, the industry needs a boost of energy and invigoration. BCMC is the place to find it!

WTCA Publications Sales

The sales team will also focus on the Board goal and objective that the more chapters and members buy WTCA products, the more they support the association. The WTCA revenue stream is dependent upon publications sales—it allows us to continue to develop new products and services as well as provide technical support and countless other benefits on which our members now rely. Among other benefits, distributing WTCA literature is a low cost way to fulfill a company's duty to inform on product installation and also educates building designers, building officials and other groups to increase the use and promote the acceptance of components.

SBC Magazine

Another priority for the team is recruiting new ***SBC*** advertisers. You may not know it, but each year, ***SBC Magazine*** provides more than $200,000 in industry project support. The sales committee will target companies in the lumber industry, the cold-formed steel industry and the EWP industry.

In order to boost advertising sales, I encourage WTCA members to contact their vendors and talk to them about promoting their companies by advertising in ***SBC***.

SBC Research Institute

The sales team will also explore all avenues for members to get involved by supporting our state-of-the-art research and testing facility: the SBC Research Institute. Last month's issue of ***SBC Magazine*** was dedicated to SBCRI, so I encourage you to review the April issue to find out the latest progress that we've made. This facility has already provided a great deal of value to all of our businesses and will continue to add to the legitimacy of our industry and improve the way we design and install components.

When I was sworn into office in October, I predicted 2008 would be a tough year. I also said Christmas would come again for the industry, and I still believe this is true. I would like to emphasize that it continues to be our desire to find the best possible solution(s) to deal with the financial pressures on WTCA's budget and also the time and budgetary constraints of all our members who are committed to our chapters. Together we've built a strong organization that has helped support the growth of our industry and served our businesses very well in good and now in the bad times. Thank you for continuing to support WTCA. SBC

Publisher's Message

A Look at Change

by Libby Maurer

Discover exciting changes in Design & Engineering!

Welcome to ***SBC's*** annual Design & Engineering issue. Despite the sluggish nature of the housing market these days, there are a lot of positive changes taking place in the industry. Let's take a look at some of the highlights.

Here at ***SBC***, all structural building component raw materials are created equal: wood, steel, plastic, papier-mâché. But when it comes to green building, cold-formed steel (CFS), due to the standards that exist, helps earn easy points toward green building certification. In "Cold-Formed Steel Helps Achieve LEED," CFS building components are viewed through the scope of a project applying for LEED certification. As component manufacturer Cascade Mfg Co (Cascade, IA) discovered, the roof design is often impacted by elements that are added to gain LEED points. In this case, CFS roof trusses' design flexibility was showcased, contributing in more ways than one to the LEED certification.

For the last few years, an industry group led by the Truss Plate Institute (TPI) has been working toward revising the industry's design standard, ANSI/TPI-1. The new 2007 version is almost here, and on page 28 is an important article about what has changed. Topping the list of improvements to this version is an organizational facelift. Frequent users of the standard will find it much easier to use. And truss technicians will want to become familiar with the design responsibilities changes in Chapter 2.

This month's **WTCA Update** on page 20 features a short case study about a component manufacturer's experience using a new product or program. In this installment, we look at the risk management benefits of SCORE certification. Find out if you could benefit too! In future issues of ***SBC***, you'll see the case study format in a new column called **Case in Point**. If you have a case study idea or would like to see your company spotlighted in this column, email us at editor@sbcmag.info or call 608/310-6706.

Most of you know a thing or two about the man we are honoring on page 34. Component manufacturers are likely to have one of his staples of automation/automated innovations in their shops. Vendors have marveled at how he crafted such innovations with remarkable precision and filled a need for manufacturers for almost 30 years. At 70, Jerry Koskovich announced his retirement from the industry earlier this year. We're pleased to send him off with a look back on his career in "Getting to Know the 'Saw Man.'"

Has your team taken on a unique design challenge recently? In the spirit of this issue's theme, don't forget to email your Parting Shots submissions to partingshots@sbcmag.info! SBC

correction: The following companies should have been listed as Operation Safety Certified in the 2008 WTCA Membership Directory that ran in the April issue.

Carter-Lee Lumber Co.* • Mooresville, IN
Safety Coordinator: Jerry Denny

Eckman Lumber Company, Inc. • Leighton, PA
Safety Coordinator: Herbie McIntosh

Manion Truss and Components • Superior, WI
Safety Coordinator: Mark Laiti

Plum Building Systems • Osceola, IA
Safety Coordinator: Steve Baker

Shelter Systems Limited* • Westminster, MD
Safety Coordinator: David Strevig

Spenard Builders Supply • Anchorage, AK
Safety Coordinator: Gerald Macon

Spenard Builders Supply • Chugiak, AK
Safety Coordinator: Michael Valentine

Spenard Builders Supply • Big Lake, AK
Safety Coordinator: Jerry Henry

Sun State Components, Inc. • Surprize, AZ
Safety Coordinator: Tim Matteson

Sun State Components, Inc. • Kingman, AZ
Safety Coordinator: Paul Beaumont

Sun State Components of Nevada, Inc.** • North Las Vegas, NV
Safety Coordinator: Travis Fuller

*Also SCORE Elite Certified **Also SCORE Leader Certified

at a glance

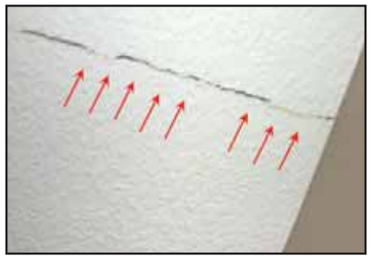
- ❑ This issue of ***SBC*** highlights Design & Engineering.
- ❑ The cover story on page 22 features cold-formed steel components, which contributed to LEED certification.
- ❑ Find out what you should know about the new ANSI/TPI standard on page 28.
- ❑ Automation veteran Jerry Koskovich is honored on page 34.

Technical Q & A

Cracking Between Drywall Joints

by Agron Gjinolli, P.E. & Larry Wainright

Why proper installation is critical to avoiding this condition.



One question that we periodically receive from builders and truss manufacturers pertains to potential causes of cracks in the drywall ceiling that run perpendicular to metal plate connected wood floor or roof trusses. These cracks are typically characterized by their appearance in the center of taped joints running parallel to the drywall panel tapered edges and/or factory seams (see photo). These cracks are primarily observed at the seams of drywall ceiling boards installed in large areas. The cracks may actually tear the drywall tape and may continue to grow over time. Furthermore, the width of the crack may vary cyclically as the seasons change.

Drywall "ridging" is the opposite phenomena to cracking and is characterized by the appearance of a small hump approximately 1/8" to about 3/8" wide, usually running along the taped joint of ceilings with longer spans. Ridging is caused by compression of the edges or ends of the finished and decorated gypsum board. This compression happens when the edges and/or ends expand during alternating periods of high and low humidity and temperature extremes.

Sometimes, both cracking and crowning appear at the same location: cracking is most common in wet months and ridging typically occurs in drier months. These problems seem to be more prevalent in homes that are built more quickly and with floor plans that provide larger open areas.

Question

Two years ago, I moved into my new home that was built during a long, cold winter. Soon after moving in, I noticed a crack appearing in the joint between two gypsum panels in the ceiling of our great room. Several repairs later, the crack continues to appear each summer. The drywall installer insists that it was a problem with the framing; the framer insists it was the drywall installer or maybe the trusses are faulty. How can this issue be resolved, and what can be done to prevent this from happening on future projects?

Answer

As is often the case, there are no "one-size-fits-all" solutions to this issue. The most obvious is to reduce and eliminate the causes of gypsum ridging/cracking (GRC). An important initial step is to properly install the gypsum product, especially in harsh climates where greater seasonal fluctuations in humidity levels occur. There are also a few remedial options that have been demonstrated to work and eliminate the incidence of GRC even when previous repairs were unsuccessful. We'll discuss these options later in this article, but first let's look at some of the factors that are known to contribute to the GRC problem.

The Gypsum Association recognizes the potential for GRC occurring due to the improper installation of gypsum products, especially when installation takes place in cold or wet conditions. To better educate installers of these products, they have published GA220-06, *Gypsum Board Winter Related Installation Recommendations,* which provides the following recommendations

- Joint treatment installation should not be installed to cold and damp surfaces, provide proper room temperatures (between 40°F and 50°F) and ventilation. Interior temperatures should be maintained at not less than 50°F for a minimum of 48 hours and the gypsum board should be completely dry before taping and finishing.
- Subsequent finishing and texturing should not proceed until previous applications are completely dry.
- The use of Propane gas-heaters is not recommended, as these temporary heat sources introduce excessive amounts of moisture into the building by their combustion and exhaust processes.
- Care must be taken when a vapor retarder is required. It is recommended that foil backed gypsum board or vapor retarder faced mineral or glass fiber insulation batts be used. When a polyethylene film vapor retarder is installed on ceilings behind the gypsum board, it is important to install the batt or blanket ceiling insulation BEFORE the gypsum board; when loose fill insulation is used, install the insulation IMMEDIATELY after the gypsum board.

In addition, the Technical Services Information Bureau (TSIB) of the Western Walls & Ceilings Contractors Association (WWCCA) states the following additional factors contributing to GRC:

- Control (expansion) joints not installed per ASTM C840.
- Use of inadequate joint compounds. In hot, dry weather a short length of joint and setting type joint compounds with shorter setting time is recommended to prevent fast drying. In wet, humid weather a setting type compound with specific drying rates based on the actual temperature and humidity should be used. In cold weather provide heat but avoid the excess localized heat that can cause joint compound to dry "too-fast" and cause cracking. Do not apply joint compounds in to cold and damp surfaces.

Proper installation of the structural framing used to support the gypsum board is also very important for minimizing the potential for GRC. The following is a list of framing issues that have been reported as contributing to GRC:

- Misaligned studs and headers around doors and windows. Joints need to be tight and with no gaps between the jack studs and the headers. Similarly, headers need to be tight against the top plate of the wall or the cripple studs above the header.
- Double top plates must be properly attached so there are no gaps between the plates.
- Gaps between the studs and the plates.
- Studs that vary in length causing uneven plates, or gaps.
- Long runs of walls or ceilings with no interruptions from intersecting walls of changes in slope. Expansion or contraction of the framing and gypsum due to changes in moisture and/or temperature is more pronounced over these longer runs and can result in cracks or ridges in seams.
- Crooked framing: Often not noticed until drywall is being attached or taped, or trim is being attached.
- Poor insulation installation. A poor insulation job can make drywall difficult to attach. Overstuffing of wall cavities, improper attachment of insulation can lead to excessive stresses in the gypsum joints.
- Use of wet lumber. Wet lumber will shrink as its moisture content reaches equilibrium with the surrounding environment.

A basic understanding of the various causes of GRC will help all parties involved in the construction project to work together to help minimize these problems.

The expansion/shrinkage of wood members in a truss is sometimes blamed as the cause of GRC. In reality, the longitudinal expansion/shrinkage of the wood

Continued on page 14

at a glance

- Two common conditions that impact drywall are known as cracking and ridging.
- These conditions can be caused by temperature and humidity changes or insufficient framing techniques.
- The Gypsum Association and the Drywall Finishing Council have provided guidelines for trades working with gypsum board.

Technical Q&A

Continued from page 13

caused by seasonal changes in temperature and humidity is tiny and insufficient to cause GRC under typical construction environments. For example, in Las Vegas the equilibrium moisture content of wood varies from 8.5 percent in January to 4.0 percent in June. Under these conditions, the amount of shrinkage between two fasteners spaced 12" apart would be 0.00325", the thickness of a piece of paper. Similarly, in more arid weather conditions where the equilibrium moisture content of wood can vary from 12 percent in winter to 4.0 percent in summer, the amount of shrinkage in a 12" long piece of lumber would be 0.0058".[1]

While some factors that cause GRC cannot be avoided, the GRC can be drastically reduced. The Gypsum Association (www.gypsum.org) and the Drywall Finishing Council (www.dwfc.org), offer the following recommendations.

- Significant improvement in preventing ceiling tape joint cracking and/or ridging was observed at homes that maintained the recommended environmental conditions prior, during and after application of the joint treatment.
  - Gypsum board must be thoroughly dry and at ambient temperature before application.
  - The relative humidity within the structure must be controlled before, during and after gypsum board application.
- Gypsum board must be maintained at a minimum temperature of 50°F and be dry for at least 48 hours prior to the application of drywall joint compounds, textures, and paints or coatings.
- Drywall attachment must always proceed from the center of the panel to the ends and edges. Drywall must not be attached at the corners first and then left to hang prior to the field being attached.
- A control joint or intermediate blocking must be installed where framing members change direction. Back-blocking of gypsum board joints is beneficial in preventing GRC. This is an additional cost, however it costs less than call-backs and disappointed customers.
- Control joints in interior ceilings without perimeter relief must be installed so that linear dimensions do not exceed 30' and total area between control joints do not exceed 900 sq. ft.
- Special attention to the use and placement of control joints and maintaining recommended environmental conditions before, during, and after application are all important factors in minimizing the effects of extreme weather conditions.
- Provide extra ventilation for any activities that create high humidity after the gypsum board is applied, such as the pouring of concrete basement floors.
- In cold weather, inside temperature shall be maintained between 50°F and 70°F. When portable heaters are used, the extra humidity that they produce must be removed.
- Concrete surfaces must be aged at least 60 days prior to the application of drywall joint compounds, drywall textures, paints or coatings.
- Resilient channels are recommended to avid the potential for GRC issues. Ceiling construction using resilient channels between the drywall and the framing appeared to produce the most reliable way to reduce the occurrence of ceiling cracking and ridging even in the cases when previous repairs failed.

Failure to observe these requirements, particularly in areas with extreme weather conditions, will have the potential to create a call back situation that is not always solved easily. SBC

To pose a question for this column, call the WTCA technical department at 608/274-4849 or email technicalqa@sbcmag.info.

[1] The amount of longitudinal shrinkage in a 12'-long 2x_ Douglas-Fir lumber where the difference in equilibrium moisture content between winter and summer is 8%, can be calculated using the simple formula:

$$\Delta L = L \text{ (inches)} \times \text{(Longitudinal Shrinkage Factor)} \times \text{(\% Change in Moisture Content)} = 12" \times 0.00006 \times 8 = 0.00576"$$

Longitudinal Shrinkage Factor is approximately 0.003% to 0.0067% for every 1% change in MC. Longitudinal Shrinkage Factor for Douglas-Fir lumber is approximately 0.006%.

Safety Scene

Here Comes the Sun

by Molly E. Butz

Take sun exposure seriously; learn the best protection techniques!

Summer is upon us; the temperatures are rising, the foliage is greening and the sweet scent of a backyard barbeque lingers in the air. Summer also means more time spent in the sun, whether it's for work or play. However, no matter how good the warm rays feel or a new suntan looks, excessive sun exposure can lead to several dangerous health concerns including sunburn, eye damage and skin cancer. The good news? Many of these sun-related health risks can be greatly reduced or even prevented by following safe sun practices.

Working outdoors for at least part of the day is a necessity at many component manufacturing facilities. Whether the majority of the production is done outdoors or employees are only outdoors for specific tasks, like stacking/storing or retrieving materials, sun safety is an easy topic to add to your standard health and safety training.

Sun Risks

Finding the best methods for prevention means it's important to thoroughly understand the risks associated with ultraviolet (UV) radiation (sun) exposure. The first, and often most obvious, indication of over-exposure to UV rays is sunburn. Sunburn is recognized as pink or reddish skin that is hot to the touch and can be accompanied by general fatigue and mild dizziness. In severe cases, sunburn can blister and may require professional medical care.

Not surprisingly, sunlight can also damage the eyes. You may not know that cataracts, which cause cloudy vision, are the most common eye disorder associated with excessive sun exposure. In addition, UV rays can burn the surface of the eye causing a condition called photokeratitis. The symptoms of photokeratitis (tearing, pain, redness, swollen eyelids, headache and temporary loss of vision) are usually not long-term but can last for a couple of days.

Finally on the list is skin cancer, which accounts for nearly half of all cancers in the United States. As a matter of fact, according to the American Cancer Society, skin cancer is the most common of all cancers and in most cases is caused by sun exposure (www.cancer.org, Skin Cancer Facts). Skin cancer is broken into two major categories: nonmelanoma (basal or squamous cell) and melanoma. Basal and squamous cell carcinoma are the most common kinds of skin cancer and are readily curable when detected and treated early. Melanoma accounts for a much smaller percentage of skin cancer cases each year but is considered far more dangerous. Unlike basal or squamous cell cancer, melanoma is more likely to spread to other areas of the body and cause additional health concerns including death. However, melanoma can also be cured if identified and treated early.

Tinted safety glasses can help you protect your eyes from all of the standard hazards in a component manufacturing plant as well as the damage associated with prolonged sun exposure.

Sun Protection Factor (SPF)

(Source: www.medterms.com)

The SPF, or Sun Protection Factor, of your favorite sunscreen refers to the product's ability to block the sun rays that will burn your skin. SPF ratings can range from two to 60 and are calculated by comparing the amount of time needed to produce sunburn on protected skin to the amount of time needed to cause sunburn on unprotected skin.

Here's an example: If your skin would normally turn red in ten minutes in the sun, then ten minutes is considered your "initial burning time." If you use a sunscreen with SPF 2, your burning time increases to 20 minutes. If, instead of SPF 2, you increase to SPF 15, your burning time increases to 150 minutes (2 ½ hours), and so on. The initial burning time is multiplied by the SPF to equal the new burning time in minutes.

at a glance

- Cataracts are the most common eye disorder associated with excessive sun exposure.
- Sun over-exposure and damage accumulates over time.
- If possible, limit employees' sun exposure at your facility.
- Use safe sun practices to keep you and your employees on the right track for preventing sun-related health risks.

Prevention

Safe sun practices will keep you and your employees on the right track for preventing sun-related health risks. As you might expect, the very best sun safe practice is to limit sun exposure whenever possible. Sometimes simply altering your work practices can help minimize sun exposure (see sidebar below for some ideas). And don't forget one critical factor: cloudy days don't always mean the sun is safe. Check your local UV index, a scale that estimates the intensity of the sun, to prepare each day's sun protection plan. (See Support Docs at www.sbcmag.info for a UV Index poster to post in your plant.)

If limiting sun exposure isn't an option at your facility, your next line of defense includes a number of mix and match safe sun practices. Begin by covering as much of your exposed skin as possible. Long pants and long sleeves made from tightly woven, lightweight, light colored cloth offer the best protection. A brimmed hat will keep your face, ears and neck shaded and adding sunglasses will help protect your eyes.

When completely covering your skin isn't feasible or reasonable, apply sunscreen, and choose a product with a minimum of 15 SPF (see sidebar on facing page for information about SPF). And remember, if you're sweating, reapply at least every two hours. It's important to note that some over-the-counter and prescription medications can cause you to be more sensitive to the sun. Be sure to check with your doctor if you take any medications and are exposed to the sun frequently.

Sunshine is an essential part of life so respecting its potentially harmful effects is critical in keeping you and your employees healthy. Encourage your employees to follow all sun safe practices at work and at home. Safety first! SBC

UV Index

The Ultraviolet Index (UV Index) is a scale that estimates the intensity of the sun (http://en.wikipedia.org). The UV Index Scale provides a description of the danger associated with each level on the Index, the color it will appear when it's shown on your local news/weather station and the recommended sun safe practices you'll need to stay protected. Go to Support Docs at www.sbcmag.info to download a poster. Please note that:

- The intensity of UV radiation reaching the surface of the earth varies greatly depending on how high the angle of the sun is in the sky. The sun reaches its highest angle at solar noon, which rarely corresponds to 12 on clocks. This is because of the differences between solar time and local time in a given time zone.
- The UV Index recommendations given are for adults with dark to moderately fair skin. Particularly fair-skinned people (and children) or those who have sun sensitivity for medical reasons need to take extra precautions.

Sun Exposure Tips

In a component manufacturing facility, certain jobs will almost certainly require you or your employees to work in the sun. In these cases, altering work practices are not an option and other sun safe practices will need to be implemented for thorough protection. However, when applicable, these simple suggestions can greatly reduce your sun exposure.

- When possible, work in the shade. If your tasks don't absolutely require you to work in the sun, move your work station into a shaded area.
- If no natural shade is around, use umbrellas and tarps to quickly and inexpensively create temporary shade.
- Take breaks in the shade.
- If specific tasks require employees to be outdoors for extended period of time, schedule these tasks early in the morning or late in the afternoon when the UV levels are lower.
- Rotate employees to ensure the same people are not out in the sun every day.

Rotate the employees that take care of tasks, such as stacking trusses using outdoor racks, to limit sun exposure.

Bcmc & Your Business Plan

The Power of Suggestion

How to encourage your suppliers to exhibit.

by Emmy Thorson-Hanson

As you know, BCMC is the annual tradeshow that WTCA organizes. Over the years, it has become the place to be; it's even been referred to as "the Superbowl of the structural building components industry." As an attendee, you've seen that the combination of its exhibits, networking and educational opportunities are second to none. But your suppliers may not know about everything BCMC has to offer them, so it's helpful to fill them in.

This year's BCMC Chair, Steve Shrader, said his company got involved in BCMC at the urging of one of their customers: "The first show we came to was the 2001 show in Louisville. We had a customer who encouraged us to explore the building components market. They said the best place to do it was BCMC." Shrader says Hundegger has come to BCMC ever since, and the company has had much success. "So in our case, one of our best customers made BCMC a reality for us. The show has really helped our company reach the next level of growth," he said.

This is a powerful example of the impact you have in your vendor relationships. For instance, the housing market has hit a rough patch, and most everyone has felt its effects in one way or another. Believe it or not, you can play a role in helping your suppliers by talking to them about exhibiting. Sure, they get promos in the mail, but nothing compares to the incentive they get from their customers. If a potential exhibitor is on the fence, encouragement from a valued customer can be the deciding factor.

Peggy Pichette, Director of Sales for the show, says component manufacturers have the most influence over convincing their vendors to come to BCMC. "When there is a relationship established between a client and vendor there is an understanding that the goal is a win/win for both parties," explained Pichette. "If I were an exhibitor I would strongly consider a recommendation from my client."

Another incentive for vendors to exhibit is the first-timer rate. The Committee put this special rate in place to encourage new exhibitors to recognize the value in BCMC, and give them a taste of what it's all about. All first time exhibitors (defined as any company that has not exhibited in the last five years) pay just $995 for the first 100 sq. ft. they reserve, and save 20 percent on all additional footage.

Besides the cost incentive, there are many additional reasons for suppliers to exhibit at BCMC. Not only is BCMC a great place for networking and exposure, but through exhibiting they will be supporting you, your association and the industry.

Shrader says one thing exhibitors should not overlook is the value found in making individual connections and relationships at BCMC. "I look at the show floor as the biggest and best annual networking roundtable," explains Shrader.

Shrader's message for potential new exhibitors is based strictly on his company's successes at BCMC: "From vendor to vendor, I'd say check out the show. There are just as many networking opportunities here for exhibitors as there are for the component manufacturer attendees."

So the next time you speak with your vendors, tell them about BCMC. Describe the atmosphere, the opportunities and your experiences. And tell them you'd like to see them there on the show floor in Denver. They won't be sorry! SBC

at a glance

- Component manufacturers have the potential to have a big impact on BCMC's success this year.
- Some exhibitors view the show floor as a huge networking roundtable.
- BCMC is a win-win situation for attendees and exhibitors.

Wtca Update

Shelter Systems Limited Manages Risk with SCORE Certification

One CM discovers surprising benefits from the programs that make up SCORE.

by Marisa Hirsch

SCORE certification was something that Joe Hikel, chief operating officer of Shelter Systems Limited, immediately knew he wanted for the company. Upon learning about the developing program at WTCA Board meetings, he saw it as a way to protect the company.

In fact, Hikel said he views SCORE essentially as a group of best practices, which makes it a valuable risk management tool. If a bad situation were to arise, being SCORE certified would be a way to protect the company.

"If we were to get [involved in] a product liability suit, let's say, we can point to [SCORE] and say we are at the head of the industry and employing great practices," said Hikel. "We think that would be a great defense."

Shelter, a SCORE Elite company, attained its status in July 2007. Like many WTCA members, the company was already using several WTCA programs and resources required by SCORE—but not everything required for the Elite level. Shelter had to get some technicians up to higher levels of Truss Technician Training certification, purchase *O*Risk and send the required people through, and purchase and implement Operation Safety.

While this may sound like a bit of an undertaking, everyone on Shelter's management team was on board. "We really didn't get bogged down in the detail of 'Well, we already have a safety program,'" Hikel said.

While Shelter did indeed already have a safety program, they decided to mold theirs and WTCA's together, which was a relatively seamless process. Hikel said that putting Operation Safety in place does not mean throwing out an established safety program. For Shelter, it meant recording a little more information than they had been previously—such as preventative maintenance of equipment.

"It really didn't cost much money because we were doing a lot of it already," said Hikel. "And we actually got some benefits.... Some of the requirements of Operation Safety made our program better."

*O*Risk was the most challenging part of their attaining SCORE Elite certification, but Hikel said it really opened up some eyes. There was some initial resistance due to time and doubts about applicability, but it was quite valuable to the group as a team. It helped people understand the liability that the company assumes with each job. (The *O*Risk SCORE requirement is for the following people to complete the course: all general managers, a contract administrator, 75 percent of sales staff, and all technical staff managers.)

Shelter decided to send people through *O*Risk using a projector in a group setting. Participants then had a chance to discuss the content. "The discussion really helped people to understand how [the material] related to what we're doing," he said.

While SCORE's inherent risk management value is the biggest reason Hikel sees for participation, the company also uses SCORE for marketing purposes. The logo and the Elite seal are used in correspondence and on layouts, as well as on their company website.

at a glance

- Shelter Systems Limited believes that SCORE certification is one way to protect the company.
- The company embraced the requirements of SCORE, even when it came to implementing WTCA programs that they wouldn't have voluntarily chosen to use.
- Operation Safety and *O*Risk are programs that delivered surprising benefits to Shelter.

WTCA SCORE™

Structural Component Operations Reaching for *Excellence*

Shelter decided to send people through *O*Risk using a projector in a group setting. Participants then had a chance to discuss the content "The discussion really helped people to understand how [the material] related to what we're doing," said Hikel.

"What we're trying to do is build a profile and build the market's perception," Hikel said. "I believe you have to invest in your company's perception in the marketplace. If not, you're going to be the cheap guy; you're going to be the commodity. If you want to be differentiated, [SCORE] is a good path."

"We've always wanted to raise our profile and to be the best truss manufacturer in the country," Hikel added. "We saw this as a way to quantify that." SBC

*If you have a story to share about the use and success of one of WTCA's programs, please contact editor@sbcmag.info. Look for a new column entitled **Case in Point**, which will feature these case studies from fellow component manufacturers.*

New WTCA Members

REGULAR MEMBERS

C & C Custom Trusses
1330 Union Church Rd
McKenzie, TN 38201
Mr. Chris Burkholder
Sponsor: Mr. Kenneth Black

Design Built Walls &Trusses L.L.C.
5726 McPherson IE
St. Louis, MO 63112
618/281-8080
Ms. Mary Pat Keller

ASSOCIATE MEMBERS

America's Skilled Personnel/ Pacesetter Personnel Services
3770 Richmond Ave
Houston, TX 77046
713/527-0707
Mr. Mark Birenbaum
Sponsor: Mr. Donald McDavid

American Institute of Building Design
7059 Blair Rd NW, Ste 201
Washington, DC 20012
202/249-1405
Mr. Steven Mickley, AIBD, CPBD

Burnett Architects
4545 Nagle Ave
Sherman Oaks, CA 91423-3225
818/784-1639
Mr. Timothy Burnett, AIA

Dow Chemical
1605 Joseph Dr
Midland, MI 48674-0001
989/636-6300
Mr. Jim Gurnee

Sheppard Structural Consulting, P.C.
1049 John R Rd
Rochester Hills, MI 48307-3231
248/608-3445
Mr. Isaac Sheppard, Jr., P.E.

Wood Specialty Company
PO Box 99
Washington, GA 30673-0099
706/678-1665
Mr. Kerry W. McAvoy, Sr.
Sponsor: Mr. Jim Finkenhoefer

Listing as of 4/15/08

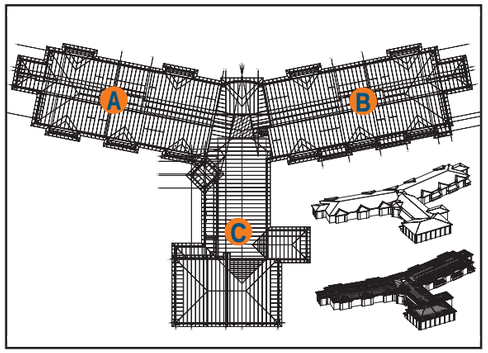
For more information about WTCA membership, contact Anna (608/310-6719 or astamm@qualtim.com) or visit www.sbcindustry.com.

Cold-Formed Steel Helps Achieve LEED

by Libby Maurer

Score two points with LEED and cold-formed steel!

What does it take to earn two points toward LEED certification? Cold-formed steel trusses.



For one public school in Madison, WI, the cold-formed steel (CFS) roof system supplied by Cascade Mfg Co is helping the project achieve Silver LEED certification. Linden Park Elementary school, which belongs to the Madison Metropolitan School District, is one of the very first in the state to seek LEED certification—part of a growing national trend for public schools and other government buildings to comply with green building standards.

There is good news for component manufacturers whose customers are adopting "green building" practices in order to achieve energy efficient structures and utilize materials harvested or made from sustainable processes. Knowing how to leverage the materials used to make your products—whether wood or steel—as those that contribute to a building's sustainable design will work to your ultimate advantage.

What It Takes to LEED

The LEED category for new or remodeled public school construction requires 37 to 43 points for attaining Silver certification. In order to hit 37, Linden Park Elementary School also incorporated the following elements:

- Fly ash as a concrete binder
- Underground geo-thermal heating and cooling system
- Day lighting concepts through solar panels
- Storm water run off through the infiltration areas, or rain gardens

at a glance

- ❑ Becoming certified under a green building standard is a growing national trend for public schools and other government buildings.
- ❑ Under the U.S. Green Building Council's LEED, using CFS trusses can earn one or two points for a project under credits 4.1 and 4.2.
- ❑ Verifying that CFS supplied for a job qualifies for LEED points is not tedious for CMs.

Designing Linden Park

In order to break the project into tangible sections for scheduling purposes, Linden Park Elementary was divided into three Areas: A, B and C. (This also helped to speed up the approval of the drawings.) Area A was further broken down into sections A1 and A2, that connect the main two wings of the building. Area B was a mirror image of Area A. Area C is another wing that encases the gymnasium and library. (See diagram above.)

Cascade's Dean Lessei began his career at the company designing both wood and steel, but takes special interest in the challenge of cold-formed steel design. "It seems like there is always something new happening with steel design. It's a newer product, so it allows for more creativity," he said. Lessei and designer Charles Kies were the sole technicians for this job.

Lessei said designing the section where Areas A, B and C converged was extremely challenging. With multiple truss profiles coming together at the same place, Lessei and architect Mark Wershay used trial and error to design creative bearing solutions to get the trusses to work in those sections. Additionally, they had to make sure there was enough space for duct and mechanical work. "It was a team effort through the design process," Lessei said.

It was also a trial to get a special tower over Area C to blend into the roof line. "[The tower] is intended to be a classroom, and it has a higher elevation than A and C. So we had to do a lot of adjusting pitches to blend the lines into the other Areas and achieve the aesthetic they were looking for," Lessei said.

In Area C, Lessei had to communicate with the basketball backboard vendor to figure out how much additional load capacity was needed for the long-span trusses framing the gym. A folding partition that would eventually transfer load to the roof trusses also presented a big challenge in Area C.

Continued on page 24

Cold-Formed Steel Helps Achieve LEED

Continued from page 22

A series of solar panels added to the roof profile in Area B after Lessei completed the truss layout earned additional LEED points for the school. “When they were added, I re-ran the load distribution to make sure the existing design could support the added panels,” he said. In the end, the addition did not impact the original design, although Lessei says an add-on like this is something to expect on LEED projects. “If the load designed into those trusses wouldn’t have been adequate for the panel additions, I would have had to redesign the trusses in the affected area. Those panels were needed for the certification,” he said.

John Murray from Wall-tech, the interior and exterior metal installation subcontractor for the job, said, “Dean blew us away. He knew the project inside and out.”

New Product, New Opportunities

According to Murray, the creative opportunities that CFS components offer is precisely why his company has chosen to take on jobs featuring CFS framing. Though Murray says few jobs in the area are specing CFS components, his company expects to establish a niche as the product grows in acceptance. “We realize there is a huge opportunity for us with this product, because it allows us to offer one more installation service,” he affirmed. “Many of the GCs we work with like that we perform more services than the typical framing/installation company.”

Murray pointed out that the learning curve for setting the structure’s frame with this “new” product was a snap for Wall-tech’s 5-man crew: one crane operator, two on ladders setting trusses, one full-time permanent bracer and one rigger. Steve Wade, Wall-tech’s on-site supervisor, says Cascade’s design makes installing steel trusses easy. “[The components] are dimensioned well.” He said for this project, everything Cascade supplied fit—meaning there was no reason to stop framing or make adjustments in the materials as supplied.

What It Takes to LEED

With more and more commercial construction projects like Linden Park Elementary going green, cold-formed steel is a natural choice. ITW TrusSteel’s national marketing director Dave Goodwin said, “It’s an attractive framing option for many builders not only because of its inherent fire, insect and mold resistance, but because steel is still the most recycled, and recyclable building material. Because of the LEED rating system, these two factors are of growing importance to both designers and building owners.”

Goodwin noted that the recycled content in steel and its recyclability are two very different things. Recycled content, he said, measures how much of the new component—a CFS truss, for instance—is made from recycled materials. Recyclability, on the other hand, measures how much of that component can be recycled at the end of its lifetime.

Under the U.S. Green Building Council’s LEED rating system, the use of cold-formed steel trusses can contribute to earning one or two points for a project, says Goodwin. Credits 4.1 and 4.2 within LEED’s Materials & Resources (MR) section for New Construction apply to materials with recycled content, such as cold-formed steel.

> Credit 4.1 (1 point)—specifies that the sum of post-consumer recycled content plus ½ of the pre-consumer content constitutes at least 10 percent of the total value of the materials in the project (based on cost).
>
> Credit 4.2 (1 point)—specifies that the sum of post-consumer recycled content plus ½ of the pre-consumer content constitutes at least 20 percent of the total value of the materials in the project (based on cost).

It’s not just you; these descriptions are far from straightforward! But LEED realizes this and provides a formula for you to determine whether your product meets the 10 or 20 percent recycled content noted in the definitions above. Imagine you’re building CFS trusses from roll-formed steel that contains about 30 percent post-consumer steel and 10 percent pre-consumer steel. The total value of the trusses you’re supplying is $10,000. You would use this formula to determine the total dollar value of recycled content for the CFS trusses.

[30% + 1/2(10%)] x $10,000 = $3500

This final number, $3500, is then added to the other recycled materials in the building to determine if the total value of all these products meets 10 or 20 percent of the total value of ALL materials in the project.

Confused? Not to worry. The good news is that component manufacturers won’t have to do this math; that’s a job for the architect. Just know that the use of CFS components contribute significantly to LEED points in the Materials & Resources section, thanks to its properties. “The percentage of recycled steel in CFS framing can vary by vendor, but generally it will be high enough so that the contribution of CFS toward attaining MR 4.1 or 4.2 points will be significant,” explained Goodwin.

Cascade has supplied CFS trusses for a handful of other jobs around the Midwest applying for LEED certification. The process for proving that cold-formed steel contributes to LEED points is not tedious. This is may point to the fact that chain-of-custody requirements do not apply to the steel industry (as they do for wood). In fact, Cascade says little paperwork or documentation is necessary. The component manufacturer must simply provide the dollar value of the components it has supplied as well as their total recycled content, which is given to them by the CFS vendor. Goodwin said this is because the steel industry has done an excellent job showing the public that steel is a highly recycled material.

Marketing Green

As you can see, it is easy to get lost in the numbers game that green building standards present. The bottom line both wood and steel component manufacturers should take away is that building components are inherently green. You, like the rest of the building products world, can use this to your advantage. “We cannot afford to forget the fact that ‘being green’ is not just an issue of planetary stewardship, it is also a competitive market situation,” noted Goodwin. Especially since, he said, other building materials are actively improving the “green” value (and image) of their products.

Nearing the end of the construction phase, Linden Park is set to house about 700 students for the 2008-09 academic year. Cascade’s portion of the work is complete, and they’re eager to see the finished product. Murray and Wall-tech are extremely impressed with Cascade’s work. “They really showed their true colors. They have depth,” he said. “It was truly amazing.” And two points toward LEED certification was icing on the cake. SBC

Build Something Strong.
Build Something Great.

Great companies
are built on solid foundations.
They develop insight.
They choose strategies.

Great companies
find business partners
that understand their needs.
The Alpine Truswal marks
are a guarantee
that your trusses
are the best in the industry -
backed by comprehensive testing
and visionary software.
You can rely on
our engineering integrity
and unsurpassed customer service
to handle all of the details -
so you can focus
on what's really important -
growing your business.

Alpine Engineered Products
A Division of ITW Building Components Group Inc.

TRUSWAL SYSTEMS

Alpine Truswal
800-521-9790
www.itwbcg.com

ITW Building Components Group Inc.

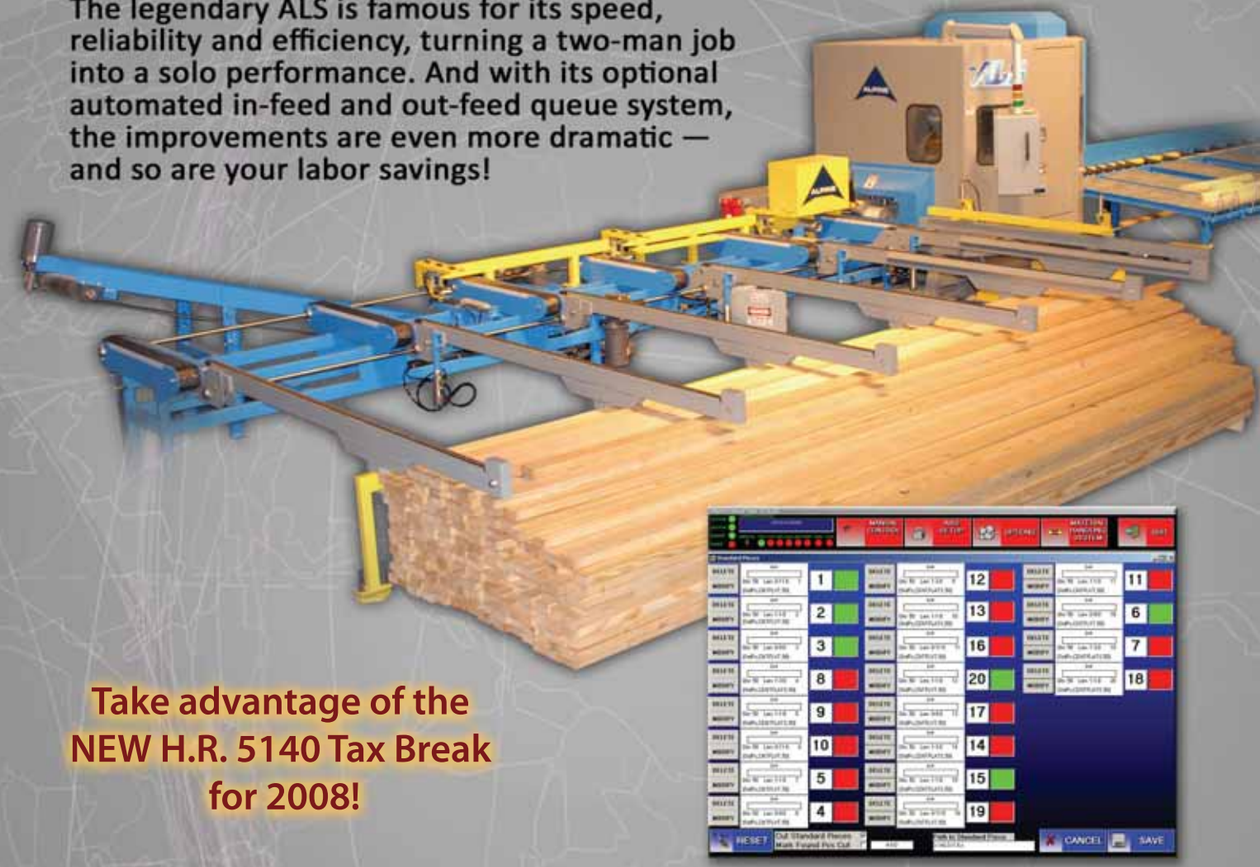
Call us.
Together, let's build something strong.
Let's build something great.

For reader service, go to www.sbcmag.info/alpine.htm or www.sbcmag.info/truswal.htm.

NEW! from your Equipment Team.

ALPINE Alpine Linear Saw

Better than ever!
The legendary ALS is famous for its speed, reliability and efficiency, turning a two-man job into a solo performance. And with its optional automated in-feed and out-feed queue system, the improvements are even more dramatic — and so are your labor savings!



Take advantage of the NEW H.R. 5140 Tax Break for 2008!

Now, the ALS takes a quantum leap into the future
- Feed speed is nearly doubled
- Inkjet piece identification printing is now on the in-feed side, eliminating manual labeling and printing
- Waste material is fed to the back of the saw; small parts delivered to the front

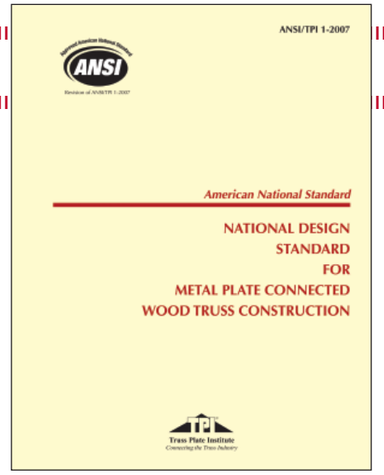
Upgrade your existing ALS
Add the automated in-feed and out-feed queue system and increase safety and decrease labor costs.

See the ALS in action online at www.alpineequip.com or ask your ITWBCG representative for a FREE DVD.

800-755-6005

ALPINE EQUIPMENT
A Division of ITW Building Components Group Inc.

For reader service, go to www.sbcmag.info/alpine.htm.



The National Design Standard for Metal Plate Connected Wood Trusses gets an update.

New & Improved: ANSI/TPI 1-2007

by Ryan Dexter, P.E., TPI staff
Reviewed by Mike Cassidy, R.A., TPI Executive Director &
Dave Brakeman, P.E., S.E., ITW Building Components Group

at a glance

- *TPI 1-2007* will be referenced in the 2009 *International Building Code* and *International Residential Code*.
- The *TPI 1* Project Committee consisted of about 50 individuals representing the industry.
- The changes that have been made to *TPI 1* will make for a more user-friendly document.
- The mandatory net section lumber limit on tension introduced into a wood member was replaced by a non-mandatory user note recommending a limit of 2300 pounds/inch.

ANSI/TPI 1-2007 "National Design Standard for Metal Plate Connected Wood Truss Construction" was approved as a revised American National Standard to *ANSI/TPI 1-2002*. This approval was undertaken by the American National Standards Institute (ANSI) Board of Standards Review and was made effective February 1, 2008. Referred to as *TPI 1-2007,* this standard will be referenced in the 2009 *International Building Code* (IBC) and *International Residential Code* (IRC). It is important to know what is contained within the standard. The purpose of this article is to introduce the industry to the key changes that have been made to the 2002 edition. Minor editorial changes made to the standard are not discussed in this article.

The TPI 1 Project Committee that worked on the revisions consisted of nearly 50 individuals representing a balanced cross section of the industry. A balanced committee was essential in order to help ensure all points of view were represented and shared within the committee and that a consensus was reached on the final language. A list of all *TPI 1-2007* Project Committee members is shown in Table 1.

One of the changes you will notice with *TPI 1-2007* is that it will be easier to locate the information you need. There are still eight chapters covering the same topics as in the *TPI 1-2002* edition. All section numbers within the chapters however now include a title summarizing the information included in it. These section titles and the corresponding page numbers have also been incorporated into a detailed table of contents. These organizational enhancements coupled with the changes mentioned below make for a more user-friendly document and also allow the standard to keep up with the evolution of the metal plate connected wood truss industry.

The revisions to the 2007 edition of *TPI 1* primarily impact standard design responsibilities (Chapter 2), in-plant quality control (Chapter 3), evaluating connector plates (Chapter 5), materials and general design considerations (Chapter 6), designing truss members' procedures (Chapter 7), and designing connector plate joints (Chapter 8). Chapter 1 has been expanded to include definitions, symbols and notations to coordinate with the revisions to the other chapters of *TPI 1-2007*. Here is a summary of the major updates. The commentary to *ANSI/TPI 1-2007* (included with the purchase of *TPI 1*) includes a detailed list of all the changes.

Chapter 2: Responsibilities in the Design Process Involving Metal Plate Connected Wood Trusses

TPI 1-2007 now contains two distinct sections. One will cover responsibilities for buildings when a Registered Design Professional (RDP) is required to be the Building Designer and one for buildings when a RDP is not required to be involved in the project. Responsibilities under these two conditions have some key differences which was important for us to clarify.

As a result of having these two sections, the term Truss Design Engineer (one licensed to practice engineering) is now used to define the individual responsible for the design of the trusses when a RDP is required and the Truss Designer is the one responsible for the design of the trusses when a RDP is not required. Another change to Chapter 2 includes a clarification of the Owner's responsibilities regarding special on-site inspections of trusses with a clear span of 60' or greater. *TPI 1-2007* now indicates that the Owner will contract with a RDP to provide special inspections to assure that the temporary and permanent bracing are installed properly in the case of long-span trusses.

TPI 1-2007 now follows the language in BCSI. The term "continuous lateral bracing (CLB)" has been replaced with the term "continuous lateral restraint (CLR)" in the updated standard. This change coordinates with language used in the current BCSI document jointly produced by TPI and WTCA. *TPI 1-2007* also lists BCSI as one of the methods to provide permanent individual truss member restraint/bracing. This will allow Truss Designers and Truss Design Engineers to reference BCSI on the Truss Design Drawing when determined to be appropriate.

There are also additions to the information that must be contained on the Truss Design Drawing (TDD) such as the applicable building code(s), number of plies, creep factor, and the fabrication tolerance instead of the quality control factor (C_q). The fabrication tolerance is a new addition to the *TPI 1-2007* and directly relates to the quality control factor (C_q). It is expressed as a percentage and its value is determined by the following formula; 1 minus C_q. Reaction forces that are listed on the TDD must be the maximum forces generated by the various load cases reviewed. Additionally, *TPI 1-2007* now uses language that is consistent with the 2006 IBC.

Chapter 3: Quality Criteria for the Manufacture of Metal Plate Connected Wood Trusses

Per an article in the December 2006 issue of SBC magazine (*TPI 1-2007* Changes: Improving the In-Plant Quality Control Standard), revisions to *TPI 1-2007* provide "...manufacturers with more efficient quality checks, leading to greater confidence in their production lines and products."

TPI 1-2007 PROJECT COMMITTEE MEMBERS

- **Chairman:** David Brakeman, ITW Building Components Group, Inc.
- Colin Bailey, Bailey and Son Engineering
- Larry Beineke, PFS Corporation
- James R. Brown, Engineering Consultants, Inc.
- Steve Cabler, MiTek Industries, Inc.
- Thomas E. Caton, US CPSC
- Kevin Cheung, Western Wood Products Association
- Scott Coffman, Builders FirstSource
- Steven Cramer, University of Wisconsin-Madison
- Brad Crane, SCA Consulting Engineers
- Scott Douglas, NCSEA - National Council of Structural Engineers Association
- Johnny Drozdek, Keymark Engineering
- Patrick Edwards, Timber Products Inspection
- Rich Edwards, USP Structural Connectors
- John G. Ernst, Wade Trim, Inc.
- Charles Goehring, Truss Plate Institute
- Samuel A. Greenberg, Dansco Engineering, LLC
- John Gruber, Sheppard Engineering, PC
- Kirk Grundahl, Qualtim, Inc.
- Joe Heinsman, Stock Building Supply, Inc.
- Art Hernandez, Eagle Metal Products
- David Horne, Universal Forest Products
- Paul Johnson, Universal Forest Products
- David Johnston, CompuTrus, Inc.
- Michael Kelly, Letherer Truss, Inc.
- Steve A. Kennedy, Lumber Specialties Ltd.
- Ted Kolanko, 84 Lumber/84 Components
- Stuart Lewis, ITW Building Components Group, Inc.
- Michael Magid, Robbins Engineering, Inc.
- Joseph Michels, Brunsell Lumber & Millwork
- Tim Murphy, Simpson Strong-Tie Co.
- David Nelson, Weyerhaeuser Company
- Michael O'Reardon, ICC Evaluation Service
- Timothy W. Ott, Callahan Associates, Inc.
- Timothy Riegel, Rigidply Rafters, Inc.
- Christopher Rizer, Stock Building Supply
- Donald Scott, ITW Building Components Group, Inc.
- Stan Sias, LMC - Lumbermens Merchandising Corp.
- Marvin Strzyzewski, MiTek Industries, Inc.
- Jim Vogt, WTCA
- David Weaver, Nederveld Associates, Inc.
- David Wert, MiTek Industries, Inc.
- Larry Wilder, Cherokee Metal Products, Inc.
- Frank Woeste, Virginia Tech University

Table 1. ANSI/TPI 1-2007 Project Committee Members

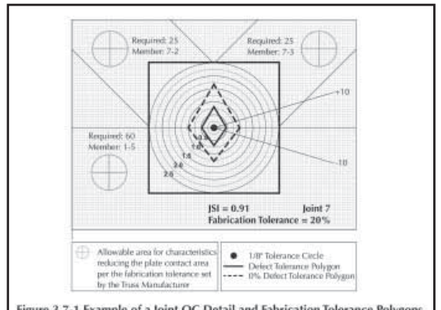


Figure 3.7-1 Example of a Joint QC Detail and Fabrication Tolerance Polygons.

Figure 3-7.1 from *TPI 1-2007*

Refer to the previous article for more detail on the changes in Chapter 3. Highlights of the Chapter 3 changes are as follows:

- **In-Plant QC manual:** More explicit requirements have been stated to help document and communicate that the particular QC requirements are known by all involved in the process.
- **Fabrication Tolerances:** As mentioned under Chapter 2 above, fabrication tolerances correlate to the quality control factor (C_q) as defined in Chapter 6 of the *TPI 1-2007*. This factor allows manufactures to dial in the fabrication tolerances they choose to operate their production under.
- **Plate Placement:** *TPI 1-2007* now has revised requirements for Joint QC details. Two fabrication tolerance polygons will now be shown. One depicting the mid-point placement of the plate incorporating the allowable defects and another polygon depicting the mid-point placement of the plate with 0% defects which will make the inspection process easier. Additionally, the new Joint QC details will list the required teeth if you need to count them (see Figure 3-7.1 from *TPI 1-2007* below).
- **Revised JSI:** The Joint Stress Index (JSI) has been revised to make it easier to understand and implement.
- **Alternate inspection methods** documented in an in-plant QC manual are also permitted to provide manufacturers with the flexibility to gear their quality control to the unique characteristics of their operations and to generate specific management information systems for benchmarking performance.

Chapter 5: Performance Evaluation of Metal Connector Plated Connections

As with former editions of *TPI 1, TPI 1-2007* still contains three test procedures:

- Testing for lateral restraint,
- Testing for shear strength, and
- Testing tensile strength.

Continued on page 30

Continued from page 29

Slight adjustments to language in this chapter have been made:

- When creating test joint specimens, the specific gravity, moisture content, and moisture adjustments of the wood members that are parallel to the load are no longer required in joints at the AE orientation (load perpendicular to grain, connector plate length parallel to load) and EE orientation (load perpendicular to grain, connector plate length perpendicular to load). This is because the wood members parallel to the load in these two tests are not the ones being tested.
- Alternatives to the given Net Area Method end distance of 1/2" and edge distance of 1/4" are now recognized in *TPI 1-2007*.
- The testing procedure for solid metal control specimens has also been modified. The specified (versus measured) coating thickness is now permitted to be used to determine the uncoated steel thickness from measurements of coated steel thickness. Also, the dimensional measurements of the solid metal control specimens' thickness are specified to 0.0001".

Ladder Frame: Short wall fabricated in the factory containing a top plate, a series of vertical members spaced 24 in. (61 cm) on center or less, and a sole plate, also known as knee wall or cripple wall.

Chapter 6: Materials & General Design Considerations

Installation tolerances have been removed from *TPI 1-2007* since they are not related to design and are addressed appropriately in BCSI. Loading conditions previously located in Chapter 2 have been relocated to Chapter 6 in this 2007 edition. The IBC now states attic live loads (other than floor live loads) that are applied to the entire length of the bottom chord are not required to be applied concurrently with other live loads. As a result, the attic live load section of *TPI 1-2007* now references the building code for specifics.

There are also some changes to the various adjustment factors used in sawn lumber.

- The repetitive member factor (C_r) increase of ten percent is now permitted to be applied to E_{min} in addition to F_c and F_t.
- The flat use factor (C_{fu}) is only applied to F_b of solid sawn lumber.
- A bending capacity modification factor (K_m) has been introduced in *TPI 1-2007* for solid sawn lumber to incorporate adjustments for lengths, load distribution, and joint location that could provide up to a 30 percent increase in F_b for some compression chords.
- The use of structural composite lumber in trusses now has specific limitations and provisions outlined in *TPI 1-2007.*

The quality control factor (C_q) is an adjustment factor pertaining to quality in the manufacture of metal plate connected wood trusses. The C_q basis changed from a maximum value of 1.25 in *TPI 1-2002* to a maximum value of 1.00 in *TPI 1-2007*. In other words, a 20 percent reduction in plate lateral resistance values with *TPI 1-2002* suggested C_q = 1.00 for 2x_ trusses is now obtained if C_q = 0.80. Recall that the fabrication tolerance that is listed on the TDD (see Chapter 2) relates to the quality control factor.

Another change in Chapter 6 is clarification with respect to ladder frames (see definition above). Building code officials have required certification for ladder frames because metal connector plates are used to fasten the vertical "stud" members to the chords. Additionally, repair drawings have been required in some instances for cutting and notching of ladder frames whereas standard building code language is accepted for conventional wall frame cutting and notching. Provisions have been added to *TPI 1-2007* to clarify ladder frame design and to indicate that "...cutting and notching of members shall be permitted within the requirements detailed in the building code for wall members."

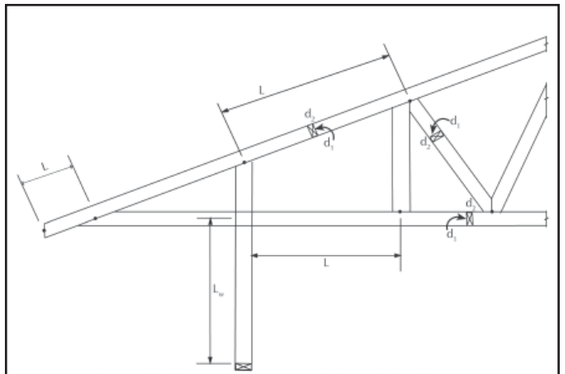


Figure 7.2-3 Unbraced Lengths for In-Plane (L, L_u) Buckling, Members Subject to Sidesway.

Figure 7.2-3 from *TPI 1-2007*

Chapter 7: Member Design Procedures

TPI 1-2007 now addresses chord member panels subject to sidesway. Sidesway is defined as a condition when the top of a column is relatively free to displace laterally with respect to the bottom of the column and its lateral displacement is resisted primarily by the flexural rigidity of the column. The opposite condition (without sidesway) occurs when the ends of the column are prevented from moving relative to each other by a much stiffer restraint, such as a trussed frame (where openings between members consist solely of triangles) connected to both ends of the compression member, or other structure. These requirements were added so that conditions such as framed down leg members are designed properly (see Figure 7.2-3 from *TPI 1-2007* above).

Truss designs that have compression webs are now restricted to a maximum of two continuous lateral restraints (CLR) and strongback attachment to trusses has also been modified from 16d common to 10d nails to reflect common and acceptable practice on the jobsite.

Continued on page 32

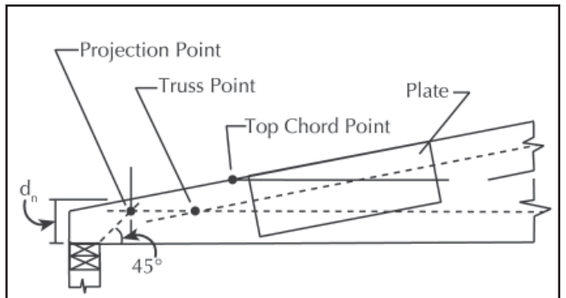


Figure 7.3-2 Depth for Shear Check of Tapered Bottom Chord Heel.

Figure 7.3-2 from *TPI 1-2007*

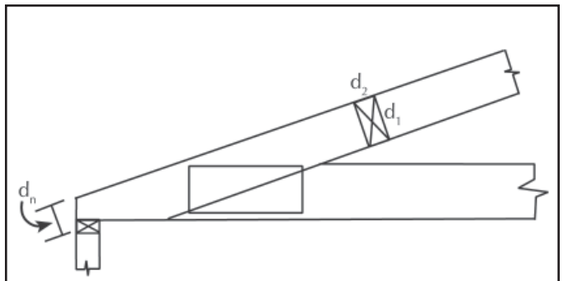


Figure 7.3-3 Depth for Shear Check of Scarf Cut Bearing.

Figure 7.3-3 from *TPI 1-2007*

New & Improved: ANSI/TPI 1-2007

Continued from page 30

Length over depth (L'/d) ratios have changed as well. An exception to the maximum L'/d ratios for compression and tension members was added to *TPI 1-2007* to permit exceeding the given ratios when design calculations are performed to account for the interaction of axial compression with initial deformation of compression members due to warp or other causes. The maximum L'/d ratio of 50 for compression members was modified to apply only to "long-term" compression members. This edition no longer explicitly assigns a maximum L'/d ratio limit for tension members not subject to reversal of stress, or tension members subject to reversal of stress from short-term gravity loads.

TPI 1-2007 has also added coordinated language with other design standards into the 2007 edition. Similar to what is currently required by the Truss Plate Institute of Canada in TPIC-2007, wood shear design provisions for tapered bottom chord heels have been added (see Figure 7.3-2 from *TPI 1-2007* above). Scarf-cut bearings supported at the outside end of the scarf cut must now be checked for tension perpendicular to grain fracture at the inside edge of the bearing using the National Design Standard (NDS®) for Wood Construction shear in joints provisions (see Figure 7.3-3 from *TPI 1-2007*). The bearing perpendicular to grain design requirements has been slightly modified in *TPI 1-2007* as well.

A new requirement for a rigid insert (e.g., 20 gauge metal insert) on parallel to grain bearing surfaces with high compression stresses must be illustrated and specified on the TDD. With an exception, bearings are also now specified to be at least 1.5" in length if on wood or metal supports and 3" in length if on concrete or masonry supports. Finally, Chapter 7 includes some modifications to ply-to-ply connections and total deflection calculations.

Chapter 8: Metal Connector Plate Joint Design

The equation to determine the minimum required metal connector plate contact area for lateral resistance has been modified to no longer require a 20 percent reduction which matches the changes to the quality control factor (C_q) in Chapter 6.

TPI 1-2007 has added a provision requiring connector plates to be designed for moments when the joints are modeled as pinned if the plate cross-section is eccentric to the chord centerline. How connector plates are designed for moments was changed as well. The moment capacity equation was updated per recent TPI Technical Advisory Committee (TAC) research. The equation now recognizes the effects of plate positioning, compression forces on the joint, and the interaction of axial compression and transverse deflection on the moment (P-delta effect) for mid-panel splices.

The mandatory net section lumber limit on tension introduced into a wood member that was set at 1600 pounds/inch in *TPI 1-2002* was removed and replaced in *TPI 1-2007* by a non-mandatory user note recommending a higher limit set at 2300 pounds/inch. Also, the new limit only applies at locations where the wood member ends under or within 1' of the truss plate edge.

Conclusion

The above information provides those working in the metal plate connected wood truss industry a summary of the new information contained in the upcoming *TPI 1-2007* design standard. The changes that have been made to *TPI 1* will make for a more user-friendly document and also allow the *TPI 1* standard to keep up with the evolution of the metal plate connected wood truss industry. The printed standard and its commentary will be available to order from TPI within the next month or two. SBC

Truss Plate Institute (TPI) was organized in 1961 to maintain the wood truss industry on a sound engineering basis. Its members are engaged in the production of metal connector plates for the wood truss industry, and individuals or firms engaged in related activities. To accomplish its purpose, TPI establishes methods of design and construction for wood trusses using metal connector plates through their ANSI accredited TPI 1 standard, supports and disseminates test and research data, assists in the development of proper building code regulations, recommends quality control standards, and distributes information on the use of metal plate connected wood trusses in the interest of public safety. Visit www.tpinst.org for more information.

Getting to Know the "Saw Man"

Celebrating the Career of Jerry Koskovich

by Melinda Caldwell

Learn more about the man behind the machine that changed the face of the component industry.

at a glance

- Jerry Koskovich, an inventor of automated solutions for truss plants, retired from the industry this year.
- Koskovich's first automated component saw was installed at Villaume Industries in 1985.
- Koskovich is grateful to many people in the industry and will continue to consult for The Koskovich Company.

It's not very often that an ***SBC*** author becomes the subject of an article, but if you have ever read one of Jerry Koskovich's many contributions to this publication you can understand how we couldn't miss the opportunity when staff learned of his retirement at the beginning of this year. You likely know that in the last 20+ years the name Jerry Koskovich has become synonymous with saw automation in the structural building components industry. He is probably best known for his AutoOmni, the first automated component saw on the market. Most would agree that his innovations have forever changed the face of component manufacturing. What you might not know is how the man Jerry Koskovich built his business from the ground up and positively influenced many colleagues and customers along the way.

From Inspector to Innovator

After receiving a degree in civil engineering from the University of North Dakota-Grand Forks in 1962, Koskovich and his wife, Marlyce, moved to California where he worked as a plan check engineer for the Los Angeles County Building & Safety Department. It was during his time on the west coast that Koskovich got his first look at a metal plate connected wood truss, then a very new concept in home construction. Little did he know that this fledgling industry would shape the focus of his life's work.

The late 1960s brought the couple back to the Midwest, where they settled in Rochester, MN, and Koskovich became the Director of Building and Safety for the City of Rochester. It was in 1973, as Minnesota's first third party inspector under the state's new Industrialized Housing law, that Koskovich once again encountered trusses and the component manufacturing environment. This was also the year that he founded Engineering Services Company (ESCO) (known today as The Koskovich Company) and began building relationships with component manufacturers (CMs) as he provided third party inspection and other engineering services.

"I started taking an interest in machines in the late 1970s because one of my customers wanted me to look into developing a component saw," Koskovich remembered. "After spending a couple of years surveying CMs to see what they were looking for in a saw, I worked with my friend Mike Peterson in his machine shop and the first manual roof truss component saw was put into operation in 1979."

Five manual saws later, after installing a saw at a plant in Winterhaven, FL, the plant manager asked a question that would change the direction of Koskovich's product development. "Bill Sauder had been doing time studies at his plant and discovered that as the PC allowed for more complexity in truss designs, they were spending more time doing saw set-ups than cutting wood," he explained. "Bill asked me one simple question: 'When are you going to automate?' We started as soon as I got home."

In 1985, Koskovich installed the first automated component saw at Villaume Industries in Eagan, MN, where he and his electronic technician/programmer, Kerry Holmberg, spent a number of months on site working with the Villaume staff to get everything just right before the saw went into production in early 1986. The close proximity of this plant to Rochester made it the perfect testing ground for Koskovich and a strong relationship grew over the years.

"I feel lucky to be Jerry's oldest customer," remarked Nick Linsmayer, President of Villaume. "At the time, people either didn't understand Jerry's saw or they didn't think it was necessary. My dad realized that saw capacity was the Achilles' heel of production and that we needed something better. We believed that Jerry was on to something and it was worth it to us to allow him the time and space to figure it out."

"It's a great honor to be the company that purchased and helped develop the world's first automated [component] saw," he continued. "And the proof is in the pudding—that first saw has been retrofitted and is still running at Villaume 23 years later."

Tom Nomeland, General Manager of Operations for Universal Forest Products, Inc. in Minneota, MN, purchased their first automated saw in 1989—the seventh saw in production. "When we first talked about automation, I really wondered how realistic Jerry's approach was," Nomeland recalled. "But after listening to him and watching his early video of the saw, we became more and more convinced that Jerry was really onto something." A few years later, Nomeland's company purchased another saw, making them the first company in the industry with two of Koskovich's saws in operation.

"In my opinion, Jerry's greatest contribution to the industry is his vision of how things should be and his persistence to see it through to a reality," remarked Nomeland. "Every machinery supplier and component manufacturer owes Jerry a hearty 'thank you' for pushing our industry into the world of automation. When many people laughed, Jerry designed and Jerry built."

The Father of Automation

Things took off slowly at first, but Koskovich still remembers the 1988 BCMC show in Nashville, TN, where computer-controlled automation made its debut. "At that point no one had seen anything automated before," said Koskovich. "They were backed up three deep to watch the machine work—it was awesome!"

From this point forward, Koskovich continued to build his reputation in the structural building components industry—both in the U.S. and overseas. Alan Kearon of Pryda Pty. Ltd., a supplier to the component industry in Australia, remembers meeting Koskovich in early 1992. Later that year, he hosted a group of CMs on a fact-finding trip to the U.S. to learn more about the saws available to them, which resulted in the sale of Koskovich's first two saws in Australia.

"His greatest contribution to the industry was that he was, in my opinion, the catalyst to change in the industry," said Kearon. "He pioneered the computer controlled saw and later truss jigging technology. One must also remember that he did this without the aid of being a nailplate supplier and having a constant supply of a commodity. Quite simply, he raised the bar."

Linsmayer agreed. "Jerry came in from the outside of the industry, built his company from scratch and fought against the inertia of the establishment in the industry," he stated. "Someone had to come in and ask 'how can we do this better.' The battle was to do it with a vision and total understanding of customer service.... Business is about making money, but more importantly, it's about doing the right thing—how to be fair and honest and live by the golden principles. Jerry's a joy to work with because that's his motto...."

Gene Ellingson, General Manager for The Koskovich Company from 1995 until his retirement in 2004, came into the industry

Continued on page 36

The rest, you could say, is history. Koskovich continued to listen to his customers and did his level best to work their suggestions into viable, automated solutions for their manufacturing operations. In the last 20 years, he has developed automated jigging equipment, an automated linear saw with an inkjet printer for marking and an automated solution for dealing with crooked lumber, along with a variety of enhancements and upgrades, including inkjet printing in 1989, to the original automated component saw. In addition, Koskovich pioneered innovations in saw in-feed material handling, such as magazines and bunk feeders.

The Man behind the Machine

While it is the introduction to automation that is repeatedly cited as Koskovich's greatest contribution to the industry, his personality and character have also made a significant impact on many over the years—business associates, employees and customers alike.

Long-time friend, colleague and fellow wooden boat aficionado, Paul Harmon, remembers meeting Koskovich at the Lake City Marina in 1976: "Jerry was walking down the dock with parts from his old boat, covered from head to toe in grease. I said to myself, 'I've got to get to know that guy—he's my kind of crazy.'"

"This was right before he started working on his first saw and we talked a lot about what he was doing, how he was going to do it, etc.," recalled Harmon. "Jerry is unbelievably persistent and tenacious, but it is his character of integrity and his respect for those around him that attract people to him."

The Koskovich Company was Harmon's first client from the component industry at his marketing firm, Harmon & Associates. "Jerry allowed us to establish an image for his company that was congruent with who he is—a dry wit, embarrassingly honest," he said. "We grew together and he gave us the opportunity to do things that other companies might have shied away from, such as cartoons."

Now also retired, Harmon cited one of the most important things he learned from Koskovich: "The way he treats people around him—the way he gives credit and shows respect—causes you to want to make that part of your own person."

"Jerry's on the top of my list as someone I treasure and honor. More than business, it's just one of the great relationships I have," said Linsmayer of his 20+ years knowing Koskovich. "His deep faith and sense of groundedness are at the base of his personhood. There are few with his passion...to be loyal to his customers and build the better mousetrap and become the legend that he is. He is deeply committed to people and who they are."

"Jerry has been a trusted friend, one you can always count on and who has helped point the way," commented Nomeland. "I love his no-nonsense approach to things. He's always straightforward and totally honest."

Kearon summed it up in one sentence: "Jerry has taught me what a good person really is!"

When Blessings Meet Hard Work

When you talk to Jerry Koskovich, it is easy to ascertain that he is one of the industry's success stories in large part to the fact that he has spent his life doing what he loves. While he has many warm memories of his years serving this industry and forging relationships with customers and colleagues, when asked about his fondest memories, two things came to mind. The first was recalled with a deep sense of pride: "Whenever I go into a truss plant that is running one of my component saws, I still get a great deal of satisfaction out of watching the machine articulate its movements—that machine just has a special place in my heart."

The second memory came with a crack in his voice and a tone of humble appreciation. "DePauw saws are still being used and have a great reputation," said Koskovich. "About 10 or 12 years ago at a BCMC show, Art DePauw paid me the ultimate compliment when he said, 'Jerry, they used to call me the Saw Man—now you're the Saw Man.'"

At the end of the day, Koskovich is thankful for many things—more people than machines. He's grateful that he started his company in Rochester, MN, a city flush with brilliant engineers and programmers who cut their teeth at the largest IBM plant in the country and were then willing to come work for him—ironically, a man who hates computers. He appreciates all of the people who believed in his ideas when they were little more than that, especially his wife of almost 50 years, who worked diligently behind the scenes to keep things going (many said he couldn't have done it without her). And most of all, Koskovich says he could not have conceived how God would direct them in all of this and bless them beyond measure. SBC

Koskovich will continue to work as a part-time consultant as The Koskovich Company carries on as a subsidiary of MiTek Industries, Inc. He also plans to enjoy his vintage wooden boats and vintage airplanes and time with his wife at their vacation home in Montana. With any luck, ***SBC*** *will be able to draw him out of retirement for the occasional article. He can be reached at jerryk@omnisaw.com.*

Getting to Know the "Saw Man"
Continued from page 35

after a 30-year career with IBM and was immediately struck by Koskovich's status as a fixture in the industry. "Jerry is widely recognized for his leadership and prominence in introducing and fostering the idea of automation in the industry, along with the efficiencies and cost-savings that automation brings," stated Ellingson. "In many ways, he was ahead of his time, but that didn't stop him from planting the seeds of automation."

Gene Toombs, CEO of MiTek Industries, Inc., agreed: "Jerry clearly is the 'father of automation' and the industry is much better positioned due to his innovation."

Online

Truss Technology Workshop

Educating Professionals on the Future of Framing

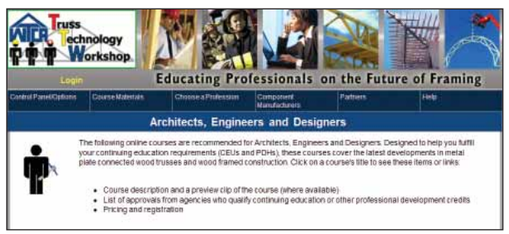
Education & Convenience Just a Click Away

Part 3 of 3

by Emily Patterson

Online TTWs make it easy for industry professionals to choose when and where they take courses.

Educating construction industry professionals about component framing is key to increasing the use, proper handling and overall understanding of structural building components. While it's crucial to spread the word about components to all professionals—from architects and engineers to fire and building officials—education isn't one size fits all for these groups. Some audiences may want to attend a live presentation given by an industry professional, while other groups get the most value seeing the industry in action by visiting a truss plant. Still, other groups prefer having education brought directly to them, which fits into their busy and varying schedules. Enter online TTWs. The third in a series on WTCA's Truss Technology Workshops (TTWs), this article looks at how construction industry professionals are learning about component construction right at their own computers through online TTWs.



Designed for individuals who want a course brought directly to them, online TTWs are auto-run, produced courses accessed through TTW's website, ttw.sbcindustry.com. More than 20 courses are available to professionals on the site 24/7 on topics ranging from bracing to mold to building codes. Quizzes are available for each course to document completion for continuing education credit (CEUs/PDHs), and students can email WTCA's technical staff to ask questions. Visitors to the TTW website can select their profession or area of interest to see courses recommended just for them. Above is the page of recommended courses for architects, engineers, specifiers and designers.

at a glance

- ❑ TTW online presentations offer affordability and convenience for professionals in the building community.
- ❑ Architect Mike Koehl found the TTW on fire assemblies very useful.
- ❑ Engineer Tom Jank said his bracing questions for a project he was working on were answered by the online TTWs he viewed.
- ❑ Professionals can view TTWs at no charge; quizzes for CEU credit cost $25 per presentation.

Providing Online Convenience

There's no doubt that live educational events are a great opportunity for component manufacturers and construction industry professionals to meet face to face, but scheduling an event can be challenging. Live events require attendees to take time out of their workday to attend a presentation, along with travel expenses. "We've had some presentations inside and outside the office, but that takes a lot of coordination," said Mike Koehl with Gleason Architects in Sugar Grove, IL.

To address these issues, online TTWs are designed to offer professionals instant education on demand that fits their busy schedules. "The online format is more convenient because we can look at it at our own pace," said Koehl.

Koehl discovered TTWs while looking online for resources on wood components. "We design a lot of wood buildings with trusses. I was looking for information on wood trusses and [TTWs] came up," he said. After reviewing what the site had to offer, Koehl took the fire assemblies TTW and said he found the presentation useful. "I thought it was very good. It explained a lot of things and reinforced some of the things we already knew. It was sort of a double check," he said.

Clarifying Industry Issues

Along with convenience, online TTWs also offer professionals the chance to quickly find answers to their questions about components. "I wanted to find courses related to what I do for a living," said Tom Jank, a professional engineer for Extendicare, a company that constructs nursing homes in the U.S. and Canada. When issues about permanent bracing requirements arose on a project, Jank checked out online TTWs after receiving an email that mentioned the TTW website.

Noting that the online TTWs answered his bracing questions for the project he was working on, Jank said he was intrigued to see all of the other topics available. "It just so happened you had other courses and I could learn more about trusses. I was a little weak on my truss design requirements and I wanted to get a little smarter on truss manufacturing and handling," he said.

After completing the courses, Jank chose to take the short quizzes and received certificates of completion from WTCA. Jank says he plans to continue using online TTWs: "Now that I'm set up, I plan on using that resource if I run into other situations."

Professionals: View Online TTWs for Free

In late 2007, online TTWs were restructured to bring professionals greater convenience in taking online courses and using TTWs as an industry reference. Online TTWs are now available at no cost to the following audiences:

- Architects, Engineers, Specifiers and Designers
- Building Officials and Home Inspectors
- Members of the Fire Service
- Builders, Contractors and Framers

Professionals can visit ttw.sbcindustry.com and access individual online courses at no charge. Each course includes a link to a quiz with the option to purchase certification for continuing education credit (CEUs/PDHs). Each quiz/certificate costs $25. For unlimited access to courses and quizzes/certification, professionals can purchase a year-long TTW subscription (see chart). Architects and engineers gain access to additional information called "Basic Truss Knowledge," which offers courses on truss design and the structural building components industry. Courses include: *Design Responsibilities & Truss Design Drawings; Introduction & Terminology; Truss Design, Manufacturing & Installation Overview; Truss Materials; Design Principles; Truss Connections; and Truss Math.*

Number of Seats per Company or Organization	Price per Seat (includes access to all online courses & certification quizzes)
1	$80.00
2-5	$65.00
6-9	$55.00
10-19	$50.00
20+	$48.00

Educating the Construction Industry

Whether used by a construction industry professional who is new to components or an industry veteran, online TTWs offer a wealth of knowledge about component framing. "There's a lot of information that architects, contactors and code officials don't understand about trusses," said Koehl noting that his firm often has to educate professionals when issues arise on a project. "If more people were looking at these things, it would probably make our lives easier." SBC

For details about online TTWs, visit ttw.sbcindustry.com; pricing information can be found at ttw.sbcindustry.com/pricing.php. If you have questions about online TTWs, contact Melanie Birkeland at 608/310-6720 (mbirkeland @qualtim.com) or Trish Kutz at 608/310-6768 (tkutz@qualtim.com).

Promoting TTWs in your Area

WTCA members and chapters are encouraged to promote the availability of free online TTWs. Your target audience receives pertinent information on the structural building components industry and you take credit for the educational programs provided by your association—it's a win-win! WTCA staff can help you with marketing materials. If you decide to sponsor CEU credit, we can supply TTW coupons to pass out. Just let us know how we can help you reach your marketplace with free TTWs.

Reduce Risk & Increase Revenue: Defining Best Practices for Ensuring High Quality Manufacturing of Wall Panels

(Part 4 of 6)

by Jim Boyle

The key to success is ensuring a quality product with a quality process.

Last month in part 3 of this series we discussed techniques that can be used to hire, train and keep the very best production, staff and management personnel. In this article, we will discuss the importance of having a company wide Documented Quality Assurance and Quality Control Program.

The first question you may ask is what's the difference between quality assurance and quality control? Is it just a distinction without any real difference? Not really! Let's define the difference with a simple definition for each:

- **Quality Assurance:** making sure you are doing the right things the right way.
- **Quality Control:** making sure the results of what you have done are what you have expected.

Quality assurance is **process oriented** while quality control is **product oriented**.

Quality assurance activities focus on the process involved in manufacturing wall panels and makes sure you are following the right steps in cutting and assembly. Quality Control activities are focused more on the completed wall panel and makes sure that the results are what you (and your customers) have come to expect.

So why do you need a QA/QC program for your wall panel manufacturing company? Wouldn't it allow you to match the expectations you or your customers have for your products? Essentially, QA/QC is a proactive effort to protect and sustain your company name, your company products, and your company profit margins. Think of a QA/QC program as a firewall against defects.

How do you get started with a company wide QA/QC program? First, acknowledge and define the process workflow throughout your organization. You all have different departments within your company (i.e., Estimating, Design, Administration, Purchasing, Production), and as a panel manufacturer you should establish and implement a quality system that is fully documented. This documented quality system must describe the processes and procedures necessary for insuring that fabricated products meet specified requirements!

You can begin by establishing "Performance Criteria" required by each department to complete a given task. These are written processes and procedures for all critical functions needed for the completion of a work element or project. If you can, try to visualize this as a series of Inputs and Outputs that are needed to move a process forward. I call this a Cross Reference Matrix, and ideally there should be a seamless flow of critical activities which are never missed; and always completed within each department.

As an example on how this might work; let's look at the Production Department in a typical manufacturing setting preparing to start a new job. To start with, I've created an example Matrix of Inputs and Outputs which insure that all critical production department processes and procedures have been included and completed. To begin:

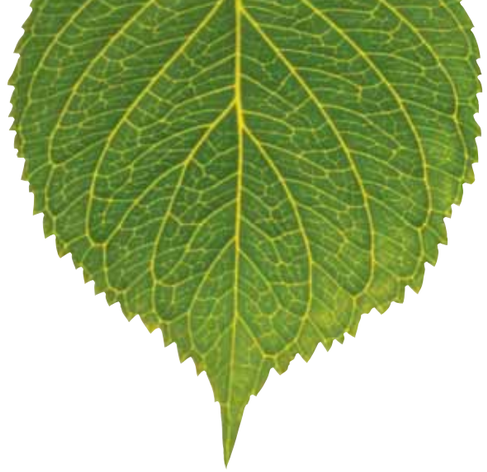
- Define the process...“Wall Panel Production”
- Who initiates the process...“Operations Department”
- What departments (or individuals) are involved...“Production Manager, Panel Designer, and Admin/Purchasing department

Continued on page 49

at a glance

- Quality assurance is process oriented while quality control is product oriented.
- Essentially, QA/QC is a proactive effort to protect and sustain your company name, your company products, and your company profit margins. Think of a QA/QC program as a firewall against defects.
- You can begin by establishing “Performance Criteria” required by each department to complete a given task.

Think Opportunity. Think Steel.



With its strength, non-combustibility, termite resistance, flexibility, and green benefits, steel framing presents the biggest opportunity in the building industry. Now your company can take part in turning this vast potential into reality. Join forces with **NUCONSTEEL®**, the world's most innovative steel framing company. We have brought a wide range of market-enabled technologies, systems and products to market. And today, we continue to expand these opportunities with the launch of our **NUPRODUCTS** line of pre-engineered homes, garages, sheds and building packages sold with our **NUFRAME** Automated Steel Panel System, and our **NUTRUSS 2.0** Automated Steel Truss System.

Become part of our Nuconsteel Automated Framing Systems Network.

Call 1.866.873.4832 or visit nuconsteel.com today.

What we offer: A total Business Package

- Software
- Roll Forming Equipment
- Training
- Slit Coils
- Plant Layout
- NUPRODUCTS
- Marketing Support

NUCONSTEEL® A NUCOR COMPANY

Is Your Business Ready For A New Frame Of Reference?

Join our Automated Framing Systems network for a "Total Solution" business package, from design to finished products.

NUPRODUCTS a line of Innovative Lifestyle Designs!

NUSHELTER® A NUCONSTEEL PRODUCT

Nushelter Classic Series: The strength of steel meets the warmth of home in this elegant residential product line. Available in a wide range of floorplans and designs.


NuShelter Gulf Coast Series: The timeless heritage of the south finds expression in these homes that are strong enough to withstand unstable Gulf coast weather.


NuShelter Weekender Series: Whether it's a riverside cottage or a rustic lodge, this series has the beauty and flexibility to make any weekend getaway memorable.


NUBUILDING™ A NUCONSTEEL PRODUCT

NuBuilding: A line of mixed use structures for commercial, agricultural and residential applications. Protect your farm equipment or build a shop behind your house.


NUGARAGE™ A NUCONSTEEL PRODUCT

NuGarage: Smart and functional, these garage solutions are available in 1-car, 2-car or 3-car plans and all plans include the strength of steel.


NUSHED™ A NUCONSTEEL PRODUCT

NuShed: A worthy shelter for lawn mowers and tools, this full panel solution comes with the strength of steel and the benefits of simple and fast installation.


Chapter Corner

For more information about WTCA Chapters and how to become more involved, contact Anna L. Stamm (608/310-6719 or astamm@qualtim.com) or Danielle Bothun (608/310-6735 or dbothun@qualtim.com). Contributions to Chapter Corner, including pictures, are encouraged. Submissions may be edited for grammar, length and clarity.

Chapter Spotlight

Chapter Meetings Go Online with *SBC Connection*

by Anna L. Stamm

In 2008, a new tool was placed in motion that has the potential to help us hold a wide variety of meetings with members while having the convenience of not traveling anywhere to participate, which is particularly great for chapter meetings where the distance can be far just to attend a two-hour meeting. Called *SBC Connection,* this approach to meetings allows members and chapters to conduct meetings using internet technology that combines a teleconference with the ability to present and work with meeting materials via the internet. All attendees call into the meeting on a toll free phone number while they simultaneously log into an online meeting website. Everyone is easily able to review and discuss posted meeting materials from the convenience of their own home or office.

The California Chapter was the first to try out this new meeting technology at its March meeting. By April, the Alabama, Michigan, Kentucky and Mid South Chapters were all using *SBC Connection*—half held the online meeting in conjunction with an in-person meeting with dinner, while half used only the online meeting tool. For other chapters thinking about this new approach to chapter meetings, consider the feedback from the California Chapter meeting:

"I was quite pleased with the meeting turnout and participation... participants are more comfortable in expressing their opinions [and] if nothing else, the meetings are far less expensive to put on and consume far less time away from the office."
—Gary Sartor, California Chapter President, Stone Truss Company, Inc., Oceanside CA

"I was able to sit in my office chair rather than a stiff chair in a conference room [and] I see the potential to get other members from my location involved just by inviting them into the meeting at the time when they are needed. I also have access to my office and other files/resources that can be used to support a current meeting discussion. Overall I think this was a great idea." *—Paul Semchuk, BMC West, Modesto, CA*

"I believe this is an excellent format for time and money savings."
—Karen Wilson, Universal Truss, Inc., Fontana, CA

"Great idea. This makes it much easier to participate."
—Michael Fisher, Western Wood Fabricators, Inc., Elverta, CA

"Today was the first meeting I've attended. I was very impressed with the online meeting and how well it went. This is a good idea and I look forward to the next one." *—Steve Fuhrman, Cordstrap USA Inc.*

The message is clear: *SBC Connection* allows members to reap the benefits of attending a meeting without the hassle and related time and travel costs, while also reaching out to members who have never been able to attend meetings in the past. For your next meeting, try *SBC Connection.* SBC

Chapter Highlights

California Engineered Structural Components Association

In March, the California Chapter replaced its usual meetings in Riverside and Sacramento with an online meeting using SBC Connection (see also the Chapter Spotlight article). First up on the agenda was a report on the Safety Zone documents for drivers. The new four-page sheet for drivers with strong visual directions for using the Safety Zone sandwich board signage at the jobsite was displayed on-screen for members to offer comments and suggestions. A one-page checklist to follow on each delivery was also reviewed. After incorporating comments and getting needed photographs, electronic copies of the documents will be emailed to the full membership for comments.

Allen Erickson gave an update on the public hearings on the San Francisco Fire Code and building labeling proposal. Thanks go to Allen and Simon Evans for their time invested in this effort. Kirk Grundahl was also able to go over the ICC code change proposal on labeling and the recent ICC Code Development Hearings.

The members held a good discussion on the confusion in Section 17 of the International Building Code (IBC) on inspection and quality assurance requirements. WTCA staff is assisting the chapter in obtaining the proper interpretation in San Diego. Ken Cloyd and Gary Sartor would be attending the DSA hearing in San Diego on April 9.

The latest WTCA Technical Notes written at the request of California Chapter members were displayed for review and comment. The Tech Notes were written to address the following industry issues: problems with gypsum installation and taking proactive steps to prevent problems before they occur; the issue of requiring trusses to be subject to "special inspections" (IBC Sec 1704) even though they are already under the manufacturer's in-plant and third party QC procedures spelled out in TPI 1; and a series of Tech Notes on the 2007 IBC and IRC supplement that updates the newly adopted 2006 IBC in California. Members agreed that industry commentary on these issues will be quite helpful in the marketplace.

A report on the recent WTCA Board and Committee meetings in Albuquerque was given by Kirk Grundahl, including a very informative review of the WTCA budget. When the discussion turned to the QC Committee meeting, it was noted that anyone in the conversion process to IBC 2006 should seriously consider moving directly to the use of ANSI/TPI 1 2007 Chapter 3 requirements, since the latest version of Chapter 3 is the best generation of the in-plant QC standard so far and even more oriented to the component manufacturing process.

Iowa Truss Manufacturers Association

On February 26, the Iowa Chapter held a Legislative Breakfast in the Legislative Dining Room at the Capitol Building in Des Moines. Approximately 50 lawmakers attended and discussed industry issues with members of the Iowa Truss Manufacturers Association, the Iowa Lumbermen's Association and the Iowa Homebuilders Association. All agreed it was an excellent event that they would repeat next year.

Continued on page 47

Industry News & Data

Visit **www.sbcmag.info** for additional industry news & announcements!

Consumer Price Index

[an index measuring the change in the cost of typical wage-earner purchases of goods and services expressed as a percentage of the cost of these same goods and services in some base period - called also cost-of-living index]

Expenditure Category	Changes from Preceding Mo. Jan	Feb	Mar	Compound annual rate 3-mo. ended Mar 08
All Items	.4	.0	.3	3.1
All Items Less Food & Engery	.3	.0	.2	2.0

Source: Bureau of Labor Statistics

Unemployment Rate

Dec	5.0%
Jan08	4.9%
Feb	4.8%
Mar	5.1%

Source: Bureau of Labor Statistics

Producer Price Index - Customized Industry Data

An inflationary indicator published by the U.S. Bureau of Labor Statistics to evaluate wholesale price levels in the economy.

Engineered Wood Mem. (exc. truss) Mfg.	Jan	Feb	Mar
Eng. Wood Mem.	89.1(P)	90.4(P)	89.5(P)
Primary Products	105.6(P)	107.1(P)	106.1(P)
Other	105.3(P)	107.3(P)	105.9(P)

(P) = preliminary

Truss Mfg.	Jan	Feb	Mar
Truss Mfg.	108.8(P)	108.4(P)	108.9(P)
Wood Trusses	104.7(P)	104.1(P)	104.8(P)
Primary Products	104.7(P)	104.1(P)	104.8(P)
Secondary Products	98.1(P)	100.4(P)	100.2(P)

Source: Bureau of Labor Statistics

Producer Price Index General

% changes in selected stage-of-processing price indexes

Month	Total	Ex. Food & Energy
Dec	-0.4(r)	0.1(r)
Jan08	1.0	0.4
Feb	0.3	0.5
Mar	1.1	0.2

Source: Bureau of Labor Statistics

Consumer Confidence Index

The Consumer Confidence Index is a measure of consumer optimism toward current economic conditions. The consumer confidence index was arbitrarily set at 100 in 1985 and is adjusted monthly on the basis of a survey of consumers. The index considers consumer opinion on both current conditions (40%) and future expectations (60%).

July	Aug	Sept	Oct	Nov	Dec	Jan08	Feb	Mar	% +/-
112.6	105.6	99.5	95.2	87.3	90.6	87.3	76.4(r)	64.5	-15.6%

Source: www.consumerresearchcenter.org

U.S. Prime Rate

Month	2008	2007	2006
Dec 1	-	7.50%	8.25%
Jan 1	7.25%	8.25%	7.25%
Feb 1	6.00%	8.25%	7.50%
Mar 1	6.00%	8.25%	7.50%
Apr 1	5.25%	8.25%	7.75%

Source: Federal Reserve Board

MARCH 2007 ISM BUSINESS SURVEY AT A GLANCE

	Series Index	Direction Mar vs Feb	Rate of Change Mar vs Feb
PMI	48.6	Contracting	Slower
New Orders	46.5	Contracting	Faster
Production	48.7	Contracting	From Growing
Employment	49.2	Contracting	Slower
Supplier Deliveries	53.6	Slowing	Faster
Inventories	44.9	Contracting	Faster
Customers' Inventories	51.0	Too High	From Too Low
Prices	83.5	Increasing	Faster
Backlog of Orders	47.5	Contracting	Slower
Exports	56.5	Growing	Faster
Imports	45.0	Contracting	Faster

For an in-depth explanation of this summary, go to https://ism.ws/ISMReport.

Housing Market Index 2007-08 (HMI)

The HMI is a weighted, seasonally adjusted statistic derived from ratings for present single family sales, single family sales in the next 6 months and buyers traffic. The first two components are measured on a scale of "good" "fair," and "poor," and the last one is measured on a scale of "high," "average" and "low." A rating of 50 indicates that the number of positive or good responses received from the builders is about the same as the number of negative or poor responses. Ratings higher than 50 indicate more positive or good responses.

Nov	Dec	Jan08	Feb	Mar	Apr
19	18	19	20	20	20

Source: National Association of Home Builders (NAHB)

Chapter Corner

Continued from page 44

Later that morning, the chapter held a membership meeting at a nearby hotel and welcomed Becky Coady of the Employer Support of the Guard and Reserve (ESGR) and Dennis Larson of the Department of Labor. Giving a presentation on the history and purpose of the ESGR, they explained that federal law and ESGR activities are a response to an all-volunteer military and are intended to represent the interests of both employees and employers. Many regulations were discussed and follow-up information resources distributed to members.

Ray Noonan delivered the Education Committee Report. On one day's notice, Rick Parrino presented a Truss Technology Workshop (TTW) to the Des Moines HBA Remodelers Council on January 18. Due to weather, the Fire Performance of Wood Trusses (FPoWT) presentation to the Monticello, IA Fire Department had to be rescheduled to March 24; Andy Green and Al Esch would deliver that presentation. Given industry economics, the chapter will not seek out further education opportunities this winter but will continue to respond to requests.

A motion was made to send a $2,000 contribution to the Carbeck Structural Components Institute and once again challenge other local chapters to support this important research and education initiative. With no objections, the motion carried.

Minnesota Truss Manufacturers Association

The Minnesota Chapter held its winter meeting on February 21 in St. Could, MN. The Code Committee report was delivered by Bob Mochinski. Members discussed the pros and cons of putting engineered information on Truss Placement Diagrams. Some manufacturers have begun doing this in Minnesota, but the consensus of the group was that putting engineering information on Placement Diagrams should not be done, given the impact on scope of work and responsibilities.

Chris Torgerson gave the Marketing/Education Committee update and discussed the ICC seminars. For the seminar on April 17 in Maplewood, the members approved the funds necessary for WTCA staff to travel to Minnesota to deliver the presentation. Also considered was whether or not the chapter should have a booth at the Northwest Lumbermen's Convention. With limited attendance at the last convention, however, discussion was tabled.

The WTCA update was given by Jim Scheible, and he provided all members in attendance a written report of the August WTCA Open Quarterly Meeting in San Francisco. A motion was made and passed to have Jim remain the chapter representative on the WTCA Board of Directors for another year. The chapter will cover the expenses for his attendance at the 2008 quarterly meetings, except for the Board meeting in conjunction with BCMC when he will already be in attendance at the show.

Under new business, officer elections were conducted. Tom Nomeland will continue as President and Chris Torgerson will be Vice President. The next meeting date was confirmed for May 15 with a location to be determined.

Missouri Truss Fabricators Association

The guest speaker at the Missouri Chapter's March meeting was Paul Rhodes of New York Life Insurance, and he discussed several topics including: taxation, protection and distribution of assets; pension and retirement planning; tax efficient wealth accumulation and preservation; asset allocation—where you build your assets and why; and family protection. His presentation was well received, he brought a lot of good points to the table, and all members agreed they came away having learned something.

Under the educational update, a recap was provided on the chapter's latest presentation for Johnson County Building Officials on February 13 in Overland Park. The chapter will begin offering plant tours to this group and several members offered their plants for possible plant tours in the future. For the upcoming Missouri Code Officials Association seminar in March, Scott Miller, Mike Vroman, Jasper Diedericks and John Hogan would be working together to deliver the presentations. The chapter was also approached by the Kansas Fire & Rescue Training Institute and was working with WTCA staff to set up a plant tour for the group. Since the chapter is becoming well known for providing excellent educational programs in the marketplace, the members were encouraged to suggest additional groups to contact to offer presentations and plant tours.

Continued on page 48

Housing Starts

March housing starts fell 11.9%, to a 17-year low of 0.947 million (SAAR). The decrease in total starts was driven by weakness in the volatile multi-family sector which was down almost 25%. Single family starts were down 5.7% to 0.68 million (SAAR). Permits continue to slide, down 5.8% to 0.927 million (SAAR).

U.S. Housing Starts

Millions - Seasonally Adjusted Annual Rate (SAAR)

U.S. Totals	Mar	Feb (rev.)	% Change
Starts	0.947	1.075	-11.9%
Permits	0.927	0.984	-5.8%
Single Family			
Starts	0.680	0.721	-5.7%
Permits	0.606	0.646	-6.2%
Multi Family			
Starts	0.267	0.354	-24.6%
Permits	0.321	0.338	-5.0%
Starts and Permits By Region:			
NE Starts	0.097	0.106	-8.5%
NE Permits	0.108	0.104	3.8%
MW Starts	0.121	0.154	-21.4%
MW Permits	0.126	0.141	-10.6%
S Starts	0.499	0.571	-12.6%
S Permits	0.501	0.499	0.4%
W Starts	0.230	0.244	-5.7%
W Permits	0.192	0.240	-20.0%

Analysis & Outlook: The housing correction continues and there are two key questions that nobody seems to have an answer for: (1) are we getting close to the bottom? and (2) when can we expect a measurable recovery? I don't have the answer either, but here is some information that you can use to draw your own conclusions. First, the economy is either in recession or close to it so that means jobs and income growth are slowing and that impacts ability to take on a mortgage. Second, inflation at the wholesale level (PPI) and consumer level (CPI) continue to increase at alarming rates, making it difficult for the Fed to lower rates much further. Third, the dollar continues to weaken and this is partly responsible for oil and other commodities (excepting wood products unfortunately) reaching record highs. Fourth, the credit markets are still not operating in an ideal/efficient manner. Lenders are wary of borrowers and vice versa as both sides try to reassess "risk." The world runs on credit, which means economies work better if the credit markets function better.

Builders continue to cut back on starts to bring new home inventories down while foreclosures continue to increase and that adds to resale inventories. Foreclosures are up 57% compared with last year at this time and analysts expect it to get worse in May and June when a wave of adjustable rate loans reset to higher rates. The second half of 2008 may be the trough (in foreclosures) as the majority of the "fragile loans" will have been worked through the system according to Rick Sharga, Realty Trac's VP of marketing. Fewer foreclosures would help reduce the inventory thereby slowing the decline in prices, and overall, this would greatly improve the demand/supply situation and provide a sound basis for a recovery, beginning perhaps sometime in 2009? We are already seeing welcomed action by the Congress and the Administration—higher loan and insurance limits for Freddie Mac, Fannie May, and other government agencies; potential tax breaks for 1st time buyers; the general tax rebate that will be mailed out beginning next month; and a host of other proposed programs to deal with foreclosures, the economy, and related issues. We have a resilient economy, buttressed by its substantial diversity, and a versatile and capable workforce, and the fact that many of our corporations have lots of cash to weather the current downturn. In addition, the world economy is doing quite well—in fact Europe has a growing inflation problem—the result of strong demand. The U.S. economy will respond favorably to sound measures by our political leaders and cooperative efforts by the various central banks. SBC

This housing starts report is provided to ***SBC*** on a monthly basis by ***SBC*** *Economic Environment* columnist Al Schuler. Visit www.sbcmag.info for more economic news.

Advertiser Index

Gold Program Advertiser
Silver Program Advertiser Bronze Program Advertiser

For more information on *SBC* advertisers, visit the "Our Advertisers" section of www.sbcmag.info.

A-NU-PROSPECT Page: 13
Joe Wilhelm • 800/615-5122 (519/349-2202) • 519/349-2342 fax
Email: joewilhelm@quadro.net • Website: www.trusstrailer.com

Building Component Manufacturers Conference (BCMC) Page: 19
Peggy Pichette • 608/310-6723 • 608/274-3329 fax
Email: ppichette@qualtim.com • Website: www.bcmcshow.com

Clark Industries, Inc. Pages: 9, 14
Sales • 800/743-9727 • 417/235-8262 fax
Email: sales@clark-ind.com • Website: www.clark-ind.com

Commercial Machinery Fabricators, Inc. Page: 31
Edward G. Joseph • 800/662-2857 • 517/323-8939 fax
Email: ed@cmfstealth.com • Website: www.cmfstealth.com

Eagle Metal Products Page: 36
Baird Quisenberry • 800/521-3245 • 972/888-9966 fax
Email: info@eaglemetal.com • Website: www.eaglemetal.com

HOLTEC Corporation Page: 4
Sam Rashid • 800/346-5832 • 813/752-8042 fax
Email: info@holtecusa.com • Website: www.holtecusa.com

Hundegger USA L.C. Page: 39
Steve Shrader or Kip Apostol • 435/654-3028 • 435/654-3047 fax
Email: info@hundeggerusa.com • Website: www.hundeggerusa.com

ITW Building Components Group - Alpine Engineered Products Pages: 26-27
800/735-8055 • 954/979-9680 fax
Email: marketing@alpeng.com • Website: www.alpeng.com

ITW Building Components Group - Intelligent Building Systems Page: 51
Ken Kirsch • 662/342-3434 • 662/342-3435 fax
Email: kenkirsch@intelbuildsys.com • Website: www.intelbuildsys.com

ITW Building Components Group - Truswal Systems Page: 27
Ken Kuehn• 800/521-9790 • 817/652-3079 fax
Email: KenKuehn@truswal.com • Website: www.truswal.com

Klaisler Manufacturing Corp. Page: 17
Sean Hubbard • 877/357-3898 • 317/357-3921 fax
Email: info@klaisler.com • Website: www.klaisler.com

The Koskovich Company Page: 33
Jim Baker • 507-286-9209 • 507-285-1730 fax
Email: JimB@omnisaw.com • Website: www.KoskovichCompany.com

Lakeside Trailer Manufacturing, Inc. Page: 24
Lee Kinsman • 573/736-2966 • 573/736-5515 fax
Email: lee@rollerbed.com • Website: www.rollerbed.com

MiTek Industries, Inc. Pages: 2-3
Michael Klein • 800/325-8075 • 314/434-5343 fax
Email: mklein@mii.com • Website: www.mii.com

Monet DeSauw Inc. Page: back cover
877/642-4900 • Email: desauw@socket.net • Website: www.desauw.com

MSR Lumber Producers Council Page: 35
Kathy James, Business Manager • 888/848-5339 • 888/212-5110 fax
Email: msrlpc@msrlumber.org • Website: www.msrlumber.org

Nuconsteel Pages: 42-43
940/383-0593 • 940/383-7930 fax
Email: chanson@nuconsteel.com • Website: www.nuconsteel.com

Open Joist 2000 Inc. (Distribution) Page: 35
Mike Beauchamp • 800/263-7265 • 514/990-0078 fax
Email: mike@openjoist2000.com • Website: www.openjoist2000.com

PANELS PLUS Page: 37
Roger Paul • Toll Free 866/726-7587 (PANPLUS) • 507/373-7110 fax
Email: sales@panplus.com • Website: www.panplus.com

Pratt Industries, Inc. Page: 35
Pratap Lingam • 727/584-1414 • 727/584-2323 fax
Email: pratap@prattinc.com • Website: www.prattinc.com

Qualtim, Inc. Page: 37
Peggy Pichette • 608/310-6723 • 608/271-7006 fax
Email: ppichette@qualtim.com • Website: www.qualtim.com

Simpson Strong-Tie Company, Inc. Page: 23
Mike Bugbee • 925/560-9060 • 925/833-1496 fax
Email: mbugbee@strongtie.com • Website: www.strongtie.com

Southern Pine Council Page: 41
Catherine M. Kaake, P.E. • 504/443-4464 • 504/443-6612 fax
Email: info@southernpine.com • Website: www.southernpine.com

Stiles/Homag Canada/Weinmann Page: 11
Michael Miller • 616/698-7500 ext. 232 • 616/698-9411 fax
Email: mmiller@stilesmachinery.com • Website: www.stilesmachinery.com

Viking Inc Page: 45
Mark Stevens • 763-586-1212 • 763/571-7379 fax
Email: marks@vikingeng.com • Website: www.vikingeng.com

Wood Truss Systems, Inc. Page: 13
Jay Halteman • 888/288-9874 • 765/288-9991 fax
Email: sales@woodtrusssystems.com • Website: www.woodtrusssystems.com

WTCA Page: 25
608/274-4849 • 608/274-3329 fax
Email: wtca@sbcindustry.com • Website: www.sbcindustry.com

Chapter Corner

Continued from page 47

West Florida Truss Association

At its first board meeting of the year, the West Florida Chapter voted to move its meetings back to the first Thursday of every other month. The general membership meetings for 2008 were set for February 7, April 3, June 5 and August 7, and the annual seminar for building officials held at Robbins Engineering was set for November 7.

The topic of the February chapter meeting was updated truss responsibilities in the 2007 Florida Building Code (FBC). Featuring a roundtable review with engineers Robert Wall, Tom Albani and Dave Rambali, the evening provided many pertinent updates on the latest version of the FBC. Attendees were able to review comparisons of the 2007 FBC to the 2004 edition as they relate to trusses. Sections of significance to component manufacturers, such as FBC Chapters 16 (Structural) and 23 (Wood) were highlighted, and attendees discussed the actions that should be taken to prepare for the pending code changes. Anyone who would like a copy of the files used at the meeting may contact WTCA staff. SBC

For a complete calendar, go to www.sbcindustry.com/calendar.php.

Reduce Risk & Increase Revenue (Pt 4)

Continued from page 40

- What are the Inputs and Outputs that need to be completed before the job is delivered?

Production—Inputs

- Receive cut sheets and production drawings from Design department
- Create production schedule
- Create delivery schedule
- Purchasing issues: Coordinate "critical lead time items" with Purchasing department
- Inventory: Coordinate current levels and impact with Purchasing department
- Delivery: Schedule raw material delivery and coordinate with Purchasing department
- Determine direct labor requirements
- Set up daily labor job/codes
- Internal change orders (if applicable)

Production—Outputs

- Review cut sheets and production drawings
- Release cut sheets and production drawings for production
- Make change order corrections (if applicable)
- Coordinate time phased material delivery with purchasing department, including: quantities, dates, and order points
- Warehousing plan
- Verify incoming freight bill of ladings with company's POs
- Verify company's ID tags have been installed on units of raw materials coming into inventory
- Track daily inventory (loss/gain)
- Weekly production plan including daily goals for all wall types
- Monitor:
  - Daily production
  - Material usage and drop-off
  - Material Inspection Reports (MIRs) for all units
  - Production Inspection Reports (PIRs) for all wall panels
  - Final Quality Control Reports (FQCRs) for all wall panels
  - Material shortages: coordinate with purchasing department
  - QC assurances (audits) monitored on materials and production processes
  - Bundling/packaging/labeling of finished products
- Verify delivery instructions given to driver
- Verify delivery packet complete; and given to driver

Once all the Production departments Inputs/Outputs have been completed, the Matrix should automatically flow to the next downstream department or work element; where this process of checks and balances starts all over!

Improve Wall Panel Quality Control!

Looking for a way to jumpstart the level of quality in your wall panel shop? WTCA agrees that quality assurance and quality control are critical to successfully managing and operating a wall panel manufacturing facility. What kind of quality control process does your plant have in place currently for wall panels? Are you proactive with quality or do you tend to react to problems? If you are not satisfied with your answers then consider the WTCA QC Wall Panel program.

This program helps manufacturers monitor the quality of their wall panels and provides the operation supervisors and managers with a robust data management system. It consists of inspecting wall panels and entering the data into the software program, allowing you to store data and create reports to assess plant quality. This program also offers a voluntary certification.

WTCA has created this program to be a practical tool plants can use to manage, benchmark, and evaluate their wall panel manufacturing. After doing inspections you can see where your problem areas lie. WTCA QC Wall Panel can assist you in refining your processes, which in turn provides assurance that your quality is meeting customers' expectations. For more information on this program, please visit www.sbcindustry.com/wtcaqcwall.php or contact Tony Piek at WTCA (tpiek@qualtim.com, 608/310-6713).

You may have noticed that there are dependencies between activities (inputs/outputs). Any delay of an activity...or forgetting to complete an activity, will impact the scheduled completion time, and usually the overall quality of the product... or work being performed.

A Quality System is only as good as the processes that you design into it; and the enforcement of those processes. It's really unfortunate, but more often than not, I see leadership and management become complacent about enforcing the processes, procedures, and personnel training necessary to produce a high quality wall panel.

See you next month when I will discuss Part 5 of the series: Estimating and Pricing Wall Panels! SBC

Boyle is a wall panel business startup and process improvement consultant. He can be reached at 541/771-7075 or jmb@jmb-panelman.com.

Classified Ads

AUSTRALIA CALLING TRUSS TECHNICIANS
Opportunities for experienced MiTek 20/20 Truss Technicians to move to Australia long/short term. Northside Trusses, based in Brisbane, Australia, have vacancies for truss technicians. See our website www.ntf.net.au. Visas are available that allow approved overseas visitors to remain employed for a period of up to 4 years, see www.immi.gov.au. If you are interested contact Chris Hay on gettech@ntf.net.au.

DESIGN MANAGER
North Texas Truss manufacturer seeks experienced design manager with extensive background in design of wood roof, floor and wall components for commercial and residential applications. Position offers competitive salary, performance bonus, excellent employee benefits and friendly working environment. Fax resumes to 972/733-4749 or email to layne@firsttrussandwall.com

Parting Shots

Share your stories and photos with us! Send submissions to **partingshots@sbcmag.info**.

Nelson Truss, Inc. of Edgerton, WI supplied the roof trusses and I-joists for a 5000 sq. ft. custom home located west of Milwaukee. These intricate intersecting radius trusses resulted from the customer's desire for a dramatic ceiling design.

"They consulted with us and the architect," said general manager Steve Johnson. "After a number of attempts, our technician was able to make it all work." Truss technician Trenton Houfe had never designed a barrel or radius truss before.

One of the biggest challenges was due to the truss spans: one had a 20' radius and the other exceeded 14'. The radius trusses were constructed in 18" segments. Houfe said, "We spent a while figuring out how tight we wanted to make the radius, because the tighter we could make it, the less field framing there would be." This saved the builder a ton of time, labor and money, he noted. In the end, both Nelson and Houfe enjoyed the challenge and got a thumbs up from the builder. "We got a lot of compliments on it. The trusses went together really well on site," Johnson said. SBC

FWA-500

"The Safest, Easiest, Fastest & Most Precise Way to Cut Floor Webs!"

"We purchased our FWA 500 to handle a significant increase in our floor truss line and this saw has been just what we needed. It has fantastic work load capacity and Monet always produces well-built, low-maintenance saws."

-Wayne Beebe
Oregon Truss & Dominion Truss Companies

www.Desauw.com

Monet Desauw Inc.

3100 Dogwood Drive * Fulton, MO 65251 * (877) 642-4900

For reader service, go to www.sbcmag.info/monetdesauw.htm

Desawyer 2000

The only computerized, five-bladed saw on the market with a complete manual backup system

"A great product backed up with unbelievable service."

-Al Cannon
Acadiana Building Components, LLC