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COMPONENTS™
THE FUTURE OF FRAMING

Sept/Oct 2013

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contents

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The mission of *Structural Building Components Magazine (SBC)* is to increase the knowledge of and to promote the common interests of those engaged in manufacturing and distributing 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 the Structural Building Components Association (SBCA). The opinions expressed in *SBC* are those of the authors and those quoted, and are not necessarily the opinions of Truss Publications or SBCA.

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editor's message

by Scott Ward

Bringing Stability Back into Our Truss Plants

Perhaps we should take a good look in the mirror and ask ourselves if we are doing everything humanly possible to create environments where people are willing to stay for the long haul.

I realize that the folks who are actively involved with SBCA talk a lot about how great SBCA programs are and how every component manufacturer (CM) should put them to good use in their business. Well, that's not just talk. I, for one, really do believe the message that we are preaching. You too may believe this message, but have some very good reasons why you have not taken full advantage of these programs. In the component industry, one of the greatest challenges is, of course, the current work force, turnover and workforce development. How does turnover affect your decision to participate or not participate in SBCA programs?

Here's one example that I know some of us are struggling with. Truss Technician Training (TTT) is arguably one of the most powerful tools SBCA has to offer. Some companies even require new hires to already have at least TTT Level 1 under their belts before coming to work for them. Let's look at a couple of scenarios that are somewhat troubling.

Scenario #1: Company X hires Jane Doe as a Level 1 designer. Jane is really intelligent, has two years of experience in the truss industry, and has completed and passed TTT Level 1. She is extremely excited to work at the company and promises to be a rising star in the organization. She hits the ground running, and a wise design manager begins getting her back on track to complete the next two levels of TTT. One year later, she passes TTT Level 2 and is now attempting to move forward with Level 3. Did I mention that Jane Doe is married to Bob Doe, an officer in the armed forces? Yes, you guessed it. Bob has been given orders to move to Germany in two months. If you're thinking that he will leave his bride behind to work at the truss plant, you are sadly mistaken. So now what? Company X has invested money into her education in order to fill the organization with highly skilled and trained individuals, but this employee is leaving the country.

If we have the confidence that our employees are dedicated and committed to our businesses, I believe that we can put SBCA's tools to work without the fear of wasting money and time.

Scenario #2: Company Y looks at hiring Bill Doe from a head hunter. The job would require a move that would put Bill a thousand miles away from his home, but he really needs a job and has several years of experience in the truss industry. Unfortunately, his former employer did not send him through TTT, but Company Y is so impressed with Bill that this isn't really an issue. The company hires Bill with plans to send him through TTT Level 1, 2 and 3 rather quickly. And so it goes. Company Y spends the time and money investing in Bill. For the next few years, Bill

Continued on page 6

at a glance

- ❑ The challenges of turnover leave some CMs hesitant about justifying the costs of training programs, such as SBCA's TTT.
- ❑ It's worth implementing new strategies for retaining employees, such as reconsidering previous policies that may be hurting your company under current conditions. An example includes careful consideration when an employee makes a special request before automatically saying "no."
- ❑ SBCA President Scott Ward calls on CMs to share their thoughts on employee retention; send suggestions to epatterson@sbcmag.info.

is a rock star at the company. He designs trusses in his sleep, works weekends, and even helps train new employees. He breezes through all three levels of TTT. The individual who hired Bill is a sup er star! But wait—the economy begins to strengthen, and Bill starts to receive weekly calls from his former employer. Company Y hopes that the head hunter is not calling him as well. Bill has been given an offer he can't refuse, and he knocks on the design manager's door with that look that can't mean good news. Bill is leaving Company Y to go back home. Again, time and money invested is now lost.

Of course, these scenarios don't just apply to truss technicians. If you've invested in programs such as In-Plant Basic Training, In-Plant WTCA QC, Operation Safety, *O*Risk, and many others, turnover can really hurt. Perhaps we should take a good look in the mirror and ask ourselves if we are doing everything humanly possible to create environments where people are willing to stay for the long haul. Sometimes changes are necessary in order to make that happen.

Recently, I was faced with a request that I would have typically said no to. One of our truss technicians, a single father, asked me if he could come in to work an hour late if he didn't take a lunch break. He had to take his daughter to school and daycare in the mornings. Our business has historically been a stickler on start times, days off, etc., so my immediate response was to say, "no." I felt that granting this request might not be fair to the rest of our staff who are so diligent to make it to work on time. But then I got to thinking about what this young man was sacrificing in order to raise a child. While the rest of his friends might be out living it up, he's dedicating himself to a very worthy cause—his daughter, who he is doing his best to turn into a fine young woman. He's also a great technician—dedicated, loyal, and he loves his job. What more could I ask for in an employee? So, while my initial 'policy-oriented' response was "no," after some consideration, my 'take-all-factors-into-account' answer became a "yes."

There are probably many ways that we can work on employee retention that we haven't thought of before. Today, I'm reaching out to my fellow CMs and asking you to offer some suggestions that we can post in an upcoming issue. What are some ways that we can bring stability back into our truss plants? If we have the confidence that our employees are dedicated and committed to our businesses, I believe that we can put SBCA's tools to work without the fear of wasting money and time.

Our trade association truly is great, and so are the programs that are available to help our businesses. I would love to see us use these tools more effectively. After all, these programs were developed by you, the members of SBCA, and the great staff that supports us. We shouldn't let them go to waste. If you have been hesitant to implement them for whatever reason, let's figure out what we can do to help each other overcome these obstacles. Please send your comments and suggestions to epatterson@sbcmag.info. SBC

SBC Magazine encourages the participation of its readers in developing content for future issues. Do you have an article idea for an upcoming issue or a topic that you would like to see covered? Email your thoughts and ideas to editor@sbcmag.info.

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exec's message

by Kirk Grundahl,
SBCA Executive Director

You Don't Know What You Don't Know, Part II

As has been stated previously in this magazine, it is very difficult (if not impossible) for component manufacturers to compete effectively when design resistance is overstated by law, and even engineers find that the best economic solution is an IRC-based prescriptive solution. This means that, when the model code is adopted into law by a state, county or municipality, in effect, it provides a monopoly-like solution to an engineering problem.

Here are a few examples:

1. IRC-based braced wall panel applications that meet the requirements of Section R602.10 should have the following values, based on SBCRI testing. As you can see, when the IRC provides a solution that cannot be supported by testing of real buildings in a code-compliant application of braced walls, more accurate and technically correct engineered solutions will never be able to compete. For more information about this table and the facts behind it please contact Larry Wainright at lwainright@sbcmag.com and see the SBCA IRC code change proposal referenced in the online version of this article.

R602.10.4.4 Design Values. For the purpose of braced wall design, the capacity of wood structural panels to resist lateral loads, as found in Table R 602.10.3(1) are found in Table R602.10.4.4.

TABLE R602.10.4.4 SIMPLIFIED SHEAR VALUES FOR WIND LOADING OF BRACED WALL LINES

Sheathing Material	Bottom plate connection to foundation	Fastener	Fastener Spacing	Any Species Stud Framing		
				Tested capacity	System Effects Factor	IRC Lateral Design Capacity
3/8", 7/16" or 15/32" WSP @16" and 24" o.c. framing	Anchor bolts per code requirements	6d (2" x 0.113" nails) or 8d (2 1/2 x 0.131"	6:12	350	1.8	600
3/8", 7/16" or 15/32" WSP @16" and 24" o.c. framing (with 1/2" gypsum on interior face of wall-	Anchor bolts per code requirements	6d (2" x 0.113") or 8d (2 1/2 x 0.131"nails and Types S or W drywall screws.	6:12 WSP & 16:16 for GWB	450	1.8	840
The lateral design capacity of braced wall panels is based on full scale wall assembly tests using the minimum restraint provisions of the IRC, further adjusted by the partial restraint/systems effect factor.						

at a glance

- When the IRC provides a solution that cannot be supported by testing of real buildings in a code-compliant application of braced walls, more accurate and technically correct engineered solutions will never be able to compete.
- There is some resistance in the market to establishing standard factors for product equivalency or system performance because it may result in non-wood products graining an advantage over traditional OSB market share.
- A top testing priority for SBCA is "Framing the American Dream III," which seeks to test a typical stick framed roof and compare its performance to an identical engineered truss roof.

2. Lateral wall panel testing through ASTM E72 has been used to justify the traditional OSB braced wall design values, which has become the "index test" by APA-The Engineered Wood Association and the American Wood Council (AWC). The ASTM E72 test results have been used as the basis, with factoring/modification, to arrive at the 600 plf and 840 plf unless listed in Table R602.10.4.4. (See the Zeno Martin and Jay Crandell paper referenced in the online version of this article for further details). This test standard states the following: **Section 14 Racking Load—Evaluation of Sheathing Materials on a Standard Wood Frame**

   NOTE 2—This standard has been used to evaluate design shear resistance of wall assemblies without the involvement of anchorage details. If the test objective is to measure the performance of the complete wall, Practice E564 is recommended.

   14.1 *Scope*—This test method measures the resistance of panels, having a standard wood frame, and sheathed with sheet materials such as structural insulating board, plywood, gypsum board, transite, and so forth, to a racking load such as would be imposed by winds blowing on a wall oriented at 90° to the panel. It is intended to provide a reliable, uniform procedure for determining the resistance to racking load provided by these sheet materials as commonly employed in building construction. Since a standard frame is employed, the relative performance of the sheathing is the test objective.

   14.1.1 This test is conducted with standardized framing, loading procedures, and method of measuring deflection, as detailed in the method to ensure reproducibility. Provision is made for following the sheathing manufacturers' recommendations for attaching the sheathing to the frame, and for reporting the behavior of the specimen over its entire range of use.

   14.1.2 In applying the results, due allowance shall be made for any variation in construction details or test conditions from those in actual service.

3. A 1985 article published by the American Society of Civil Engineers (ASCE) entitled "Light-Frame Shear Wall Length and Opening Effects" had this to say about ASTM E72 testing (the full paper and related information can be found in the online version of this article]:

   Standard methods of testing the racking capacity of light-frame walls are inefficient and may give erroneous estimates of shear wall performance. This study is concerned with improving the data base for racking resistance of light frame walls with plywood and gypsum sheathings…

   The current ASTM E 72 test does not represent a shear wall in a structure. This study shows smaller, less expensive tests could be used instead of ASTM E 72 to predict relative ultimate racking strengths of different sheathing materials. The alternative test method, ASTM E 564 produces results that cannot easily be compared between researchers. However, ASTM E 564 may be a better indicator of shear wall performance in a structure.

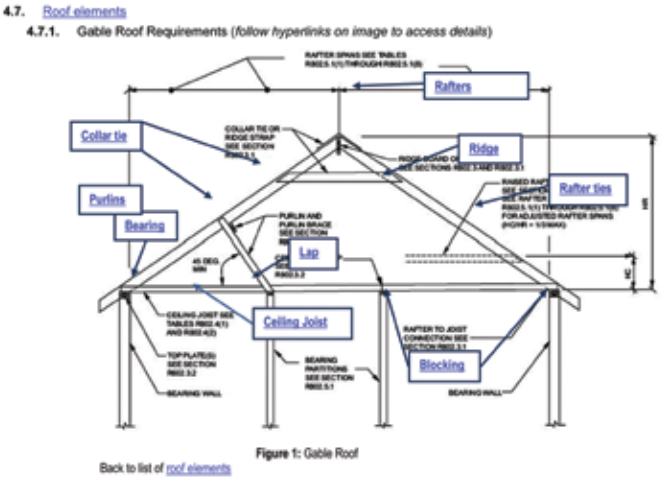
4. Ed Elias, Corporate Secretary of APA (now APA President) had this to say in a key section of his letter to us regarding a meeting we in January, 2013, where we specifically discussed the 1.8 IRC factor in the SBCA proposed IRC Table R602.10.4.4:

   "APA staff has reviewed the information that was shared with us and we have the following comments and concerns:

   - We believe that a major goal for the SBCA position is to provide a cost-effective engineering solution to their membership and as such this goal serves the SBCA membership well. However, by establishing standard factors in which product equivalency or system performance are applied generically, an unintended consequence may be that non-wood products (e.g. foam sheathing) gain an advantage and supplant traditional OSB market share. This is not in our Association member's best interests..."

The foregoing is just the tip of the iceberg in terms of examples where the IRC effevtively legislates competitive advantage to forest products that SBCRI has uncovered through its real-world assembly testing. This recently revealed disparity in the market is one reason why SBCA recently approved the policy, *Raw Material and Construction Product Purchasers, Resellers and Users Depend on Design Properties in the Raw Materials and Construction Products to be Accurate and Reliable.*

This is also a top testing priority for SBCA in what we are calling "Framing the American Dream III." This testing program seeks to test a typical stick framed roof as it is installed by framers today, and compare its performance to an identical engineered truss roof. Can you imagine what we will find if the IRC has done the same thing to roofs as they have to walls? Just look at the typical code requirements for roof stick framing.



As stated in our 2009 TPI/SBCA joint testing agreement, our industry believes in the following guiding principles:

Section C – SBCA/TPI Guiding Principles (from the December 3, 2009 signed agreement)

1. Metal Plate Connected Wood Truss (MPCWT) components perform in unique ways as installed in assemblies.

Continued on page 10

2. Further studying of MPCWT components, through testing of as-built assemblies and analysis of the results may provide the industry with additional information and knowledge. The goal of this testing is to enable greater understanding and continued advancement of MPCWT design while continuing to maintain truss analysis and design founded on sound engineering principles.
3. Pursuing testing and analysis of MPCWT components in as built assemblies will present unique opportunities that may challenge current thinking and practices which is viewed as healthy and a worthwhile step in advancing the industry.
4. While assembly testing is desirable, integrating this new knowledge with individual MPCWT component testing is also desirable so that future advancements can also be made using empirical correlation and modeling.
5. SBCA has a state of the art testing facility (SBCRI) capable of testing individual members in components, individual components as designed today and individual components in actual as-built assemblies making greater understanding of both testing modes and their interrelationship very robust.

We have a strong suspicion that we may likely find again that we do not know what we do not know about stick frame roof performance. If it is anything like lumber—where there was a factor of 1.3 design value competitive advantage over engineered solutions since at least 1984, and wood structural panel shear walls, where we have found a factor of 1.8 design value competitive advantage over engineered solutions since at least the 2000 IRC--roof trusses may also be at a code-compliant, competitive disadvantage. Our goal is to expose these types of inequities in the marketplace so that the engineering we perform every day has the value it rightly deserves. The devaluation of engineering through prescriptive engineering should have everyone that makes a living through the structural building component industry passionate about changing this circumstance sooner than later. **SBC**

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In an environment where choices are made based on necessity and a need to get as much return for your money as possible, BCMC makes the most sense for the best possible outcome. With more educational sessions than ever before, BCMC is hitting the mark to help you and your business thrive through the next year. Staying ahead of the curve is an obvious return on your investment, not to mention all the money-saving tips and tricks the sessions will give you about your business. Can you really afford not to come?

See pages 22 - 26 for more details and profiles of each of our Exhibitors!

Saturday, 10/5 & Sunday, 10/6
7:00a - 6:00p **BCMC Build Construction**
Monday, 10/7
7:00a - 6:00p **BCMC Build Construction**
12:00p - 8:00p **Exhibitor Move-in**

BCMC Build

New Braunfels, TX
Saturday - Monday,
October 5 - 7,
7:00a - 6:00p

BCMC Build is teaming up with Operation FINALLY HOME and the Building Systems Councils to build a home for Cody Allen Nusbaum, a Specialist in the US Army.

While serving in the Kandahar region of Afghanistan, Cody's unit was ambushed by Taliban fighters disguised as Afghan police officers. Cody was shot numerous times, requiring more than 65 surgeries to repair his injuries. In October, Cody will be able to take another important step when he walks across the threshold of his new home!

SBCA Annual Meeting

Tuesday, October 8, 4:00p

Gather with fellow members and hear the latest from our association! We'll recap the year's successes and recognize the industry's award winners.

Tuesday, 10/8
7:00a - 12:00p **BCMC Build Construction**
8:00a **Toyota Tour**
8:00a - 8:00p **Exhibitor Move-in**
12:00p - 6:00p **Registration**
1:00p - 2:00p **Educational Sessions**
2:00 - 2:30p **Coffee Break**
2:00p **CVB - Spouse/Guest Orientation**
2:30p - 3:30p **Educational Sessions**
4:00p - 5:00p **SBCA Annual Meeting**
5:00p - 6:00p **Welcome Reception**
6:00p **Welcome from BCMC Chair**
6:05p **BCMC Build Ceremony & Kick-off Presentation**
8:00p **Top Chord Club & SBCA Board Dinner**

Wednesday, 10/9
6:30a **5K Run for BCMC Build**
7:30a - 5:00p **Registration**
7:45a **Continental Breakfast**
8:15a-9:15a **Economic Forecast**
9:30a - 10:30a **Educational Sessions**
10:00a **Spouse Tour**
10:00a - 5:00p **Spouse Hospitality Room**
10:45a **Ribbon Cutting**
10:45a - 5:00p **Exhibits Open**
2:30p **BCMC Bowl Drawing**
3:15p - 4:30p **CM Roundtable**
4:45p **BCMC Bowl Drawing**

Thursday, 10/10
7:30a - 11:30a **Registration**
7:30a **Continental Breakfast**
8:00a - 9:00a **Educational Sessions**
9:00a - 12:30p **Exhibits Open**
9:00a - 12:00p **Spouse Hospitality Room**
11:30a **BCMC Bowl Drawing**
12:30p **Toyota Tour**
12:30p **Official Adjournment & Exhibitor Move-out**

Kick-off Presentation

Tuesday, October 8, 6:05p

Balancing Life, Work, Family & Friends – You've Got to Have a Sense of Humor™

Speaker: Bruce S. Wilkinson, CSP, Workplace Consultants

Finding balance can be pretty challenging when you are trying to make ends meet. Join us for an enthusiastic, humorous, and content-filled program for people who want to laugh, reduce stress, improve their attitude, and bring balance and enjoyment back into their life, family and work.

Economic Forecast

Wednesday, October 9, 8:15a

Speaker: James Dunn, Chair of Branch Board, Oklahoma City Branch Board of the Federal Reserve Bank of Kansas City

Jim will provide an in-depth discussion on the current state of the economy and give insight on the economy from two levels—the LBM dealer business perspective and the federal reserve point of view. He'll combine these two unique perspectives and present an insightful view of our economic future.

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by Jim Vogt, P.E.

Pay Attention to the Grade Stamp

If the thickness and width of specially marked lumber is less than the minimum dressed-size permitted, the potential effect on structural properties can be significant.

Question

Our company recently received a shipment of lumber in which one of the units contained pieces marked with the grade stamp shown (see Figure 1). This is the first time I've seen a grade stamp with the size of the lumber included in it. Can we use this lumber in our trusses?

Figure 1. Grade stamp with lumber dimensions included

Answer

This grade stamp identifies the dimensions to which the lumber was dressed (i.e., surfaced) and the moisture content classification at the time the surfacing was performed. The dimensions are included because the dressed size is less than the minimum size requirements established by the grading rules for 2x4 dimension lumber.

The vast majority of sawn lumber used for structural applications in the United States is produced in accordance with the U.S. Department of Commerce Voluntary Product Standard PS 20 (2010), American Softwood Lumber Standard (ALSC). PS 20 establishes standard sizes and requirements for lumber grades of the various species, the assignment of design values, and the preparation of grading rules applicable to each species.

Table 3 of PS 20-10 lists the nominal and minimum-dressed sizes for boards, dimension lumber and timbers. The portion of Table 3 that includes the sizes for dimension lumber is reproduced in Table 1 on the next page.

PS 20 defines dry lumber as:

> **2.7 Dry lumber**-Lumber of less than nominal 5-inch thickness which has been seasoned or dried to a maximum moisture content of 19 percent,

at a glance

- When a stick of lumber's dressed size is less than the minimum required dressed size, the grading agency includes the size in the grade stamp as required by PS 20.
- Reduced dimensions can result in actual design overstress, unless the actual size is put into the lumber inventory of your software provider's program.
- It is incumbent on the purchaser to decide whether or not to use specially marked lumber; buyer beware if there is a downstream design issue and the grade stamp was not accounted for in the design.

Item	Thicknesses			Widths		
	Nominal Inch	Minimum Dressed		Nominal Inch	Minimum Dressed	
		Dry	Green		Dry	Green
		Inch	Inch		Inch	Inch
Dimension				2	1½	1 9/16
				2½	2	2 1/16
				3	2½	2 9/16
	2	1½	1 9/16	3½	3	3 1/16
	2½	2	2 1/16	4	3½	3 9/16
	3	2½	2 9/16	4½	4	4 1/16
	3½	3	3 1/16	5	4½	4 5/8
	4	3½	3 9/16	6	5½	5 5/8
	4½	4	4 1/16	8	7¼	7½
				10	9¼	9½
				12	11¼	11½
				14	13¼	13½
				16	15¼	15½

Table 1. Nominal and minimum-dressed sizes of dimension lumber

Likewise, PS 20 defines green lumber as:

> **2.11 Green lumber**-Lumber of less than nominal 5-inch thickness which has a moisture content in excess of 19 percent.

Table 1 indicates that the dressed sizes for dimension lumber that is surfaced when green are greater than the dressed sizes for lumber surfaced when dry. This is due to the fact that wood shrinks as it dries (i.e., moisture content decreases). The greater the reduction in moisture content, the greater the expected shrinkage.

Section 7.3.1 of PS 20 includes the following provision for grade-marked lumber:

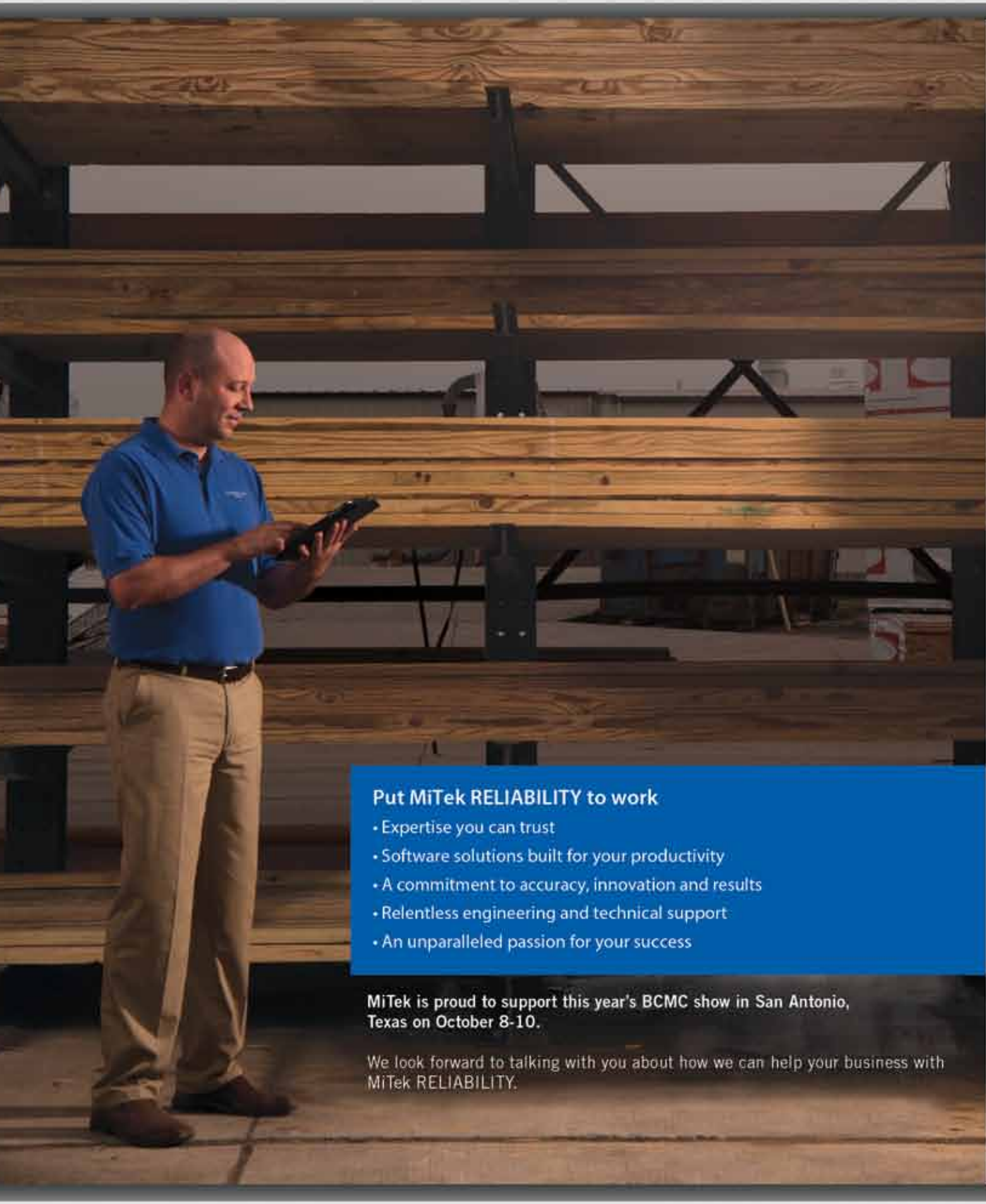
> **7.3.1** The grade mark shall signify that the lumber conforms to the size, grade and seasoning provisions of the rules under which it is graded. When green lumber of less than nominal 5-inch thickness is graded and grade marked under the applicable grading rules [see also 6.2.6], it shall comply with the green size requirements of such rules. ***If lumber is dressed to a size below the minimum size requirements shown in Tables 1-4 or below the minimum sizes set forth in the applicable grading rules, the mark shall show that size, and if less than of nominal 5-inch thickness, shall state whether the lumber was dry or green when dressed.*** [Bold and italics added for effect.]

A portion of the 2x4 lumber you received was apparently surfaced to 1-1/2" by 3-1/2" while still green, as opposed to being surfaced to 1-9/16" by 3-9/16", as required in PS 20. Since this dressed size is less than the minimum required dressed size, the grading agency included the size in the grade stamp as required in Section 7.3.1 of the standard. It is incumbent on the consumer to decide whether or not it is acceptable to use this lumber. In other words, the buyer must beware if there is a downstream design issue and this grade stamp was not accounted for in the design.

The thickness and width of this specially marked lumber is 1/16" less than the minimum dressed-size permitted in PS 20. In addition to possible plate pressing problems, if this material is used with standard size lumber, the potential effect on structural properties could also be significant. The reduced dimensions of this material result in an approximate 6 percent reduction in cross-sectional area, an 11 percent reduction in flatwise section modulus, and a 16 percent reduction in flatwise moment of inertia. Further, Section 6.3 of TPI 1-07 requires that:

> Design of lumber and chord members shall be based on dressed sizes as set forth by the U. S. Department of Commerce, PS 20. ***If other sizes or materials are used, the net dressed size shall be stated in the design and used in the design calculations.*** [Bold and italics added for effect.]

Therefore, if this lumber is used in the manufacture of metal plate connected wood trusses, it will need to be added to the lumber directory in the design program as a specialty product with reduced dimensions. SBC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MiTek is proud to support this year's BCMC show in San Antonio, Texas on October 8-10.
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60 Years of Cascade

A man, a family and a community.

By Sean D. Shields

Ever hear someone whip out the phrase, "the more things change, the more they stay the same," to describe a situation? When the situation is tenuous, you wonder what that phrase even means. But when it's used properly, you have to just nod your head and smile. The 60-year history of Cascade Lumber Company is definitely one that exemplifies this sentiment.

On the southwestern edge of Dubuque County sits the small town of Cascade, Iowa (pop. 2,122). Only a few miles of cornfields separate it from Cedar Rapids to the west and Dubuque to the east; yet it has maintained its time-stood-still look and feel. According to the Census Bureau, there are 511 families in Cascade, but there are few of them that have made as big an impact on this community as the Noonan and Althoff families. To understand the effect one company and two families can make, it's important to look first at the foundation of that company, its growth over the years, and the character of the people who worked and continue to work there.

Clan Noonan and...

The 1840s was a watershed decade for Ireland as it struggled through the potato famine – a tragedy of historical proportions. During this time, more than one million died and another million emigrated from Ireland to seek a better life; many to the United States. Among those fleeing their homeland were the ancestors of Ray Noonan Sr. They homesteaded in eastern Iowa, which, according to the 1872 census, was about as far west as the Irish settled during that time.

In 1947 after serving in the Navy during World War II, Ray Sr. and his new bride Mary moved from Chicago to Manchester, Iowa; near his ancestral homestead where his parents had recently retired. Not long after moving there, a friend suggested he look into getting in to the lumber business. After all, it was one of the three basic human needs of food, shelter and clothing. It was a radical idea, however, particularly given Ray Sr.'s admission, "In the beginning, I didn't know the difference between a sheet of drywall and a piece of plywood."

With an entrepreneur's spirit, and a strong relationship with his local bank, Ray Sr. and wife Mary opened Cascade Lumber Company on May 19, 1953. At his side were his first two employees, Harry Thomas who ran the business side of things, and Denny Leib who managed the daily yard operations. In starting his company,

Ray Sr. adopted a unique approach. "He acted as a one-man sales team, traveling around the area to visit prospective, and eventually ongoing, customers," says Mike Noonan, VP of Marketing. "He not only sold products, he also sold himself."

As business grew, more good people came to work at Cascade Lumber. In the early 1960s a distant cousin, Bill Noonan, began his 30-year career with Cascade Lumber as the foreman of the construction crew. "He was a skilled carpenter and problem solver," says Pat Noonan, VP of Manufacturing. It was not uncommon for Cascade's high school students to spend their summers working with Bill on the crew, or at the lumber yard. Many of those who worked on the crew ended up choosing to make the construction industry a career.

As construction in the Cascade area boomed during the 1960s and 1970s, Ray Sr. introduced his four sons and daughter to the lumber business. "During summers and school breaks, we did everything from picking up the yard and straightening lumber piles to working in the shop or on the carpentry crew," says Ray Noonan Jr., President. "It was good training for a life-long career in the business."

Success Through Diversification

Ray Sr. was a hard-working, forward-thinking man. He opened his lumber yard on two acres of land on the east side of town just off the highway. Most construction materials (lumber, bagged cement, roofing materials, etc.) came by rail to distribution points in neighboring towns, since Cascade had no rail service. There were no forklifts at the time either, so unloading was all done by hand onto trucks and then transported to the yard. Often times, the load exceeded the truck's capacity (for a good example, look at Parting Shots in the June/July Issue).

In the early years, Cascade Lumber Company built feed bunks, hay wagon racks and portable buildings in the driveway of the lumber yard and offered them for sale. At the same time, the construction crew was looking for ways of building projects more efficiently. Ray, Sr. had read about connecting lumber by means of split-rings and bolts, which opened a whole new chapter for the company. "In the early years, the trusses were assembled using split-rings and bolts in the driveway," says Pat. "They were then disassembled, transported, and reassembled by the construction crew onsite. They were extremely popular for agricultural buildings, due to the wider, clear span dimensions that could be accomplished." In addition, the lumber yard branched out into panelizing walls for building homes that Bill Noonan and his crew would erect.

In 1963, Cascade Manufacturing was established to handle the swiftly rising demand for componentized framing, with most of their customers being other retail lumber yards. "The engineering behind trusses advanced from split-rings and bolts to plywood, then on to flat sheet metal and eventually to today's metal connector plate," says Ray Jr. "As it did, Cascade's manufacturing process had to grow and evolve." As construction remained robust throughout the 1960s into the '70s, Cascade Lumber expanded into building design and estimating to meet the needs of contractors looking for a reliable source for home and agricultural plan design.

In the early 1960s, Cascade Lumber did something else considered revolutionary at the time; they sold hardware, paint and tools. While it is commonplace today, back then, those things were purchased at a hardware store, not a lumber yard!

In 1976, Mel Staner came to work at Cascade Lumber while a high school senior, drawing up building plans and providing estimates. "His high quality of work earned him the trust of local contractors," says Mike, "and for the next 35 years, Mel has been the first choice of customers." Mel was also an integral part of another business venture of Ray Sr. The Circle C Buildings division of Cascade Lumber focused on a complete building package for agricultural and commercial applications. Circle C Buildings were marketed and sold through an independent dealer network and provided expansion and growth for many years for Cascade Lumber.

During the 1970s, computer-aided truss design became the next area of focus at Cascade Manufacturing. In 1976, Ray

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Sr. hired Bill Weber to work in the truss plant. Bill may have started in the truss plant, but he soon moved inside to manage the fledgling truss design department. Today, Bill manages the truss tech department for Cascade Manufacturing and runs the engineered wood products division. "Over his 35 years with the company, he has become an expert on the development of truss design software," said Ray Jr. "He often serves as a consultant to our plate supplier as they update their software."

By 1979, Cascade Manufacturing had grown too big for its current home. A new facility was designed and constructed by employees.

Its 90-foot width was touted at the time as the widest clear span post-framed structure in the Midwest.

During the 1980s, home construction began to go through a radical change, and Cascade Manufacturing changed with it. "While wide solid sawn wood joists had long been how floors were constructed," says Pat, "man-made composite lumber I-joists promised an end to the twisting, splitting and bowing that plagued solid wood joists." In addition, laminated veneer lumber (LVL) for use as garage headers and basement beams promised even greater strength than solid sawn lumber beams. Cascade accepted both products early on. In 1992, Cascade built a warehouse and distribution yard for these now popular products known now under the category of engineered wood products.

Cascade's diversification continued in the 1990s as well. Alpine Engineered Products had developed a cold-formed steel truss product. "We embraced this concept as well," says Mike. "We built our first steel project in 1998, assembled on wood truss production tables." By 2002, the steel component division was so robust, an additional facility was acquired to handle production. Today, Cascade furnishes steel components to projects in many states; providing the company geographic and product diversity.

Today, several second and third generations of clan Noonan and Althoff are actively involved in operations at Cascade Lumber or one of its subsidiary companies. In addition to Ray Jr., Pat and Mike; second generation members John Althoff and wife Mary Beth (Noonan) Althoff are involved in accounting operations, while brother John Noonan works in sales and purchasing at the retail store. Additionally, quite a few third generation family members of both the Noonan and Althoff families have come to work at the business, giving the term "family business" a whole new meaning.

A Company of Character

While it is true that Cascade Lumber and Cascade Manufacturing succeeded and grew partly because of its diverse product offerings, fundamentally it had more to do with the character of the people who worked and continue to work there. Thanks to the principles Ray Sr. exhibited in the workplace and the stability Ray's wife Mary provided at home, it is not so surprising the Noonan clan is a close-knit group of dedicated and passionate individuals. What is jaw-dropping is the number of individuals who have made working for Cascade their entire career.

It's a culture that may have started with Ray Sr's first employees, Thomas and Leib. Ray Menge was hired in 1954 to do deliveries, but switched over in the early '60s to work in the retail store and run Cascade's flooring division for the next 40 years. Bob Takes started in 1956, and spent 52 years at the wheel of a delivery truck. "He used to fondly say that, in his career, he drove three million miles," says Pat. "Two million miles going forward, and one million driving in reverse; delivering products in difficult jobsite conditions."

Staner and Weber, as mentioned earlier, have stayed for over 35 years. Bill Then managed truss production for most of his 35-year career, until his untimely death in 2009. Roy McDonnell started on the carpentry crew in 1979. He moved into dispatch after a time and used his "best Irish diplomacy" to manage the realities of today's dispatch office during his 30-year tenure. The impressive list continues with a litany of current employees hired in the '80s and '90s whose only excuse for not being there as long as those mentioned is the fact they haven't been alive long enough yet.

A story that illustrates how much Cascade means to its employees, its customers and its community is from 1997. In the early morning on January 5, a fire swept through the wood truss plant and attached offices. "In a matter of only a few hours, the only thing left of the entire complex built up over 20 years was ash," says Ray Jr. "It was a complete and potentially devastating loss." Ray Sr.'s advice e as he surveyed the devastation? "Keep going."

"Local news stations covered the story extensively, helping to proactively get the word out to our customer base," says Pat. "And our plate vendor, Lumbermate (eventually purchased by Alpine), worked with us to help facilitate replacement of machinery, computers and our computer network." Even competitors lent a helping hand, allowing Cascade Manufacturing to lease their idle production time during evening shifts. The community also rallied around the company, with several local businesses chipping in to help in various ways.

Instead of creating a barrier, the fire actually motivated further growth. "The resulting reconstruction process and 'keep going' attitude became the mantra of our company as we rebuilt," says Mike. A little less than a year after the fire, Cascade became a two-location company, purchasing the plant of a competitor in Eldridge, Iowa. They eventually built and opened a third location in Pleasantville, Iowa in 2005.

Conclusion

Over their 60 years of business, a lot has changed in the lumber and building material industry to keep up with changes in building construction methods and materials. Few have weathered these changes as well as Cascade Lumber Company. Through Ray Sr.'s forward-thinking commitment to embracing change and innovation, he acted as a pioneer and model for others to follow. It's a lesson his descendants have learned. Through them, his vision of a company that "keeps going" no matter the challenge (think: recent economic past) is still alive and well. It's a philosophy that has united their employee base to the point of radical loyalism, and has earned them the admiration and support of their community.

So while much has changed since Ray Noonan Sr. opened his doors in 1953, Cascade Lumber Company's approach to meeting its customers' evolving needs remains the same. SBC

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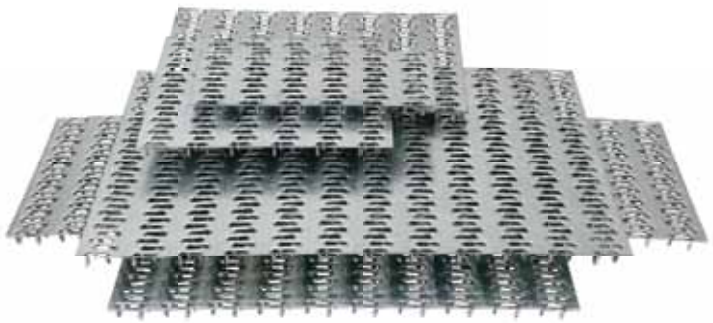

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Continued on Page 24

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Randek develops, manufactures and markets high-performance machines and systems for prefabricated house manufacturing. The product range consists of: cut saws, wall floor and roof lines, roof truss systems, butterfly tables and special machines. The automation level stretches from fully automated to manual. The company history goes back to the 1940s and began working in close cooperation with the first prefabricating house producers. Today leading house producers in 37 countries are using Randek machines and system.

Rex Lumber

Rex Lumber, a fourth generation company of the McRae family, has three SYP sawmills, two in northwest Florida and one in Mississippi. The state-of-the-art sawmills' production are from dense forests focusing in high grades including 1 and 2 prime for the box and export markets as well as machine evaluated and machine stress rated grades for truss markets. Please visit our website at rex-lumber.com and come chat with one of our knowledgeable salespersons.

Robbins Lumber Company

Robbins Lumber offers distribution centers throughout the Midwest and South Eastern United States specializing in MSR Pine, MSR spruce and SPF #2. We have office/reload locations in Florida, Michigan, Alabama, Pennsylvania and Chicago, IL. Stop by our booth and let us show you our commitment to customer satisfaction.

Exhibitor Profiles

Sauter-Timber LLC
Sauter Timber is North Americas first Joinery Center for heavy timber components. We supply the building industry with pre-cut heavy timber components to match with other components, as well as complete timber frame and hybrid homes.

Scotch Gulf Lumber, LLC
Scotch Gulf Lumber, manufacturers of quality southern yellow pine lumber since 1892. One of the pioneers in MSR lumber with 3 sawmills, treating and reman facilities located in Alabama with a production capacity of 365 million board feet. Various items produced are: MSR lumber, standard dimension and radius edge decking.

Simpson Strong-Tie *See ads on pages 20-21*
Simpson Strong-Tie introduces its updated **Component Solutions** software – featuring improved 3D modeling software, a full line of high-quality, code-listed truss connector plates, comprehensive training, unsurpassed customer service, and a wide range of Simpson Strong-Tie® structural connectors, fasteners, anchors and lateral systems. **Learn more at www.strongtie.com/ics and our booth.**

Contact: Ms. Frankie Emerson • 925-560-9000 • 925-847-1603
femerson@strongtie.com • www.strongtie.com

SL-Laser Systems
Founded in 1988, SL Laser has been a pioneering force in the development of precision single and multiple head laser projection systems for truss, floor deck and wall panel systems. Our patented hardware and state-of-the-art software feature many user-friendly features designed to enhance functionality, while prompting the easy-to-use fundamentals that make our systems the industry benchmark. Seamless integration between TrussPilot™ software and hardware results in reduction of production costs and an increase in accuracy and profitability. Our Laser Systems can be found projecting increased productivity in some of the finest building components manufacturing companies in the world.

SpaceJoist - ITW Building Components Group
Capture a growing market with SpaceJoist, the lightest open-web truss system available. This truly unique system combines the best features of a wood I-joist and an open metal web truss to deliver a quality product with maximum efficiency. SpaceJoist is the premier truss system for both commercial and residential jobs. Contact us to see how Spacejoist will benefit your bottom line.

Stiles Machinery Inc.
Stiles Machinery Inc. is the world's largest independent distributor of advanced CNC equipment for processing wood panels, solid wood, composites, plastic, glass, stone, and other materials. Founded in 1965, Stiles offers a Total Production Solutions approach to manufacturing, from equipment integration and manufacturing consulting to education, service and parts. Large processor or small shop, Stiles is your single best source for the tools and the knowledge you need to be competitive in your market. The way we see it, our business is helping your business succeed – whether through equipment solutions, new technology or educational opportunities. Headquartered in Grand Rapids, Michigan, Stiles has regional locations in Toms River, New Jersey; High Point, North Carolina; Coppell, Texas; and Rancho Cucamonga, California. Visit Stiles at www.stilesmachinery.com or on Facebook at www.facebook.com/StilesMachinery.

Structural Building Components Association *See ad on page 27*
Representing component manufacturers, builders, material suppliers and industry professionals, SBCA provides the tools to protect and grow your business.

T. R. Miller Mill Co., Inc.
T. R. Miller Mill Company has been a quality lumber producer since 1872. We offer a full line of Southern Yellow Pine products, specializing in machine stress rated (MSR) lumber for the truss industry. Visit our booth and let us help you with your future lumber needs.

Todd Drummond Consulting, LLC.
Lean manufacturing consulting services. 60+ consultations, 24 years in the industry, and the 10th year as an independent consultant. Most clients obtain a 3 to 6 point gain in net profit! Providing clients with truss labor time standards (R.E., S.U. or Man-Minutes and also known as the Houlihan Method) and lean principles with practical suggestions for improving the bottom line. All departments are addressed. (50% shop / 50% office). Included with my services is my new labor software that tracks individual trusses automatically. In addition, I am a referral agent to AppWright communication software and also collaborating with a financial advisory firm specializing in the building products and construction industry. We do advisory for debt, private equity capital, and mergers and acquisitions. Ask for details.

TOLKO INDUSTRIES
Tolko Industries Ltd. (Tolko) is a private, Canadian-owned forest products company based in Vernon, British Columbia, which manufactures and markets specialty forest products to world markets. Since its beginnings in 1956, Tolko has grown from a small sawmill in Lavington, BC, to become a company diversified by geography and product, with approximately 5,000 employees across Western Canada. Tolko celebrated its 50th Anniversary in 2006.

Truss Plate Institute
The Truss Plate Institute (TPI) and its members are connecting the truss industry. Stop by our booth to learn about our nationally recognized 3rd Party Quality Assurance Inspection program, to learn about the ANSI/TPI 1 -2007 standard, and to review and ask questions about other guidelines and technical publications such as BCSI!

TrusSteel - ITW Building Components Group
TrusSteel is the most accepted, most specified cold-formed steel (CFS) truss system on the market today. No other building component system combines strength, stiffness, fire and insect resistance, and design flexibility as well. TrusSteel puts all of ITW BCG's engineering and software experience to work for you.

USP Structural Connectors
USP Structural Connectors, a division of MiTek's Building Products Group, has become the world's leading manufacturer of code approved structural connectors, anchors and epoxy for the residential, commercial and DIY markets. USP manufactures over 4,000 SKUs backed by professional engineering, technical support, an international sales team and innovative software solutions. MiTek's Building Product Group also includes industry leading Hardy Frame Shear Walls and Z4 Hold Down Systems. In USP's quest to build stronger safer structures, the company is dedicated to providing its customers with a competitive advantage. Learn more at USPConnectors.com.

Vekta Automation
Vekta Automation manufactures the Razer linear saw and other automated products for our industry. Our product line has been increasing steadily in recent years and we are now proud to provide a number of cutting solutions as well as packfeeding systems, multi-station kickoff conveyors, and more. However, we're proudest of our recent developments in printing. We can now print nail plate outlines and other information directly onto the cut components with the intention of eliminating paperwork necessary to build the trusses! Stop by our booth to learn more about how Vekta Automation is helping plants of all sizes implement more cost effective automated solutions in today's market.

Wasserman & Associates, Inc. *See ad on page 26*
Wasserman & Associates is a representative for new truss, wall panel, stair, door and finger jointing equipment. We also offer the option of used or reconditioned equipment. As a partner in your equipment selection process, we promote the equipment that best suits your individual requirements, not the equipment that optimizes our commission.

Contact: Mr. Rod Wasserman • 402-761-2421 • 402-761-2422
sales@wasserman-associates.com • www.wasserman-associates.com

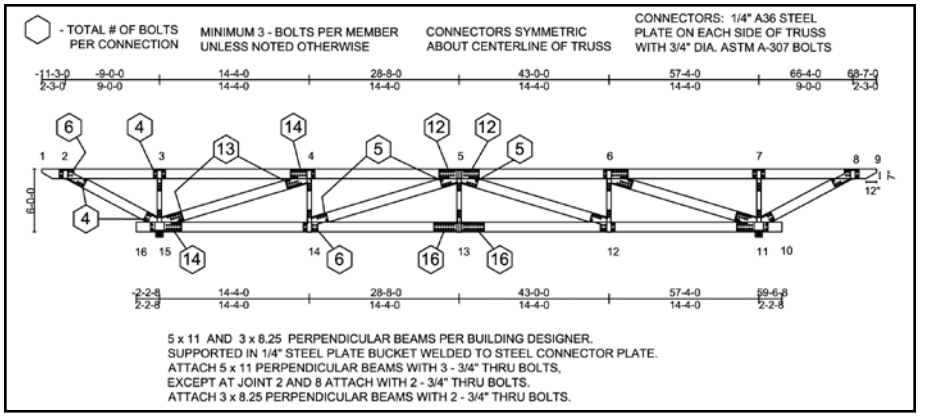
West Fraser
In 1955, Sam, Bill and Pete Ketcham were young men who took a chance on a purchase of a small mill in the Town of Quesnel and started West

Continued on Page 26

parting shots

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

When the new Bell Park Pavilion in Greenwood, AR, needed a roof, Capital Structures provided a solution with these glulam beam trusses. The pavilion, which hosts weddings, parties, and concerts, features a 4,000 square foot main room with 10 full-glass garage doors that can be raised for open-air events. Two 80'-5" long individual glulam trusses were built and connected together with perpendicular beams, creating a hoist-able pair of trusses that was 14' wide. The total weight of the assembly installed was more than 6,300 lbs. The two-paired sections were hoisted onto the building, and then the additional framework was installed with two more trusses and perpendicular beams to complete the roof. SBC



Exhibitor Profiles

Fraser. More than five decades later, the Company has grown from the original 12-person crew at Two Mile Flat to become the largest lumber producer in North America. Over the last ten years, West Fraser has grown outside of the Company's original base in British Columbia, increasing our manufacturing capabilities in Alberta and the southern United States. Today we are the largest lumber manufacturer in Alberta and one of the largest in the U.S. South. By pursuing this strategy, we are creating new platforms for growth in many of the areas where we operate and in regions with stable or growing timber supply. Visit www.westfraser.com to learn more.

Westervelt Lumber

NEED FSC LUMBER? WE HAVE IT! Westervelt Lumber is a SYP producer located in Moundville, AL. We produce FSC Certified dimension lumber, boards and timbers. Shipping available by truck or rail (NS service). You can reach us at 800-633-5963 or www.westervelt.com.

Wood Truss Systems, Inc. *See ad on page 19*

Fully independent, we search from a variety of industry suppliers for new and used equipment and services that best meet your needs. We've built a reputation and our whole business on it. Count on effective, economical and timely solutions featuring new and used: Wood Runner automated lumber retrieval; Roof and Floor Truss Equipment; Wall Panel Equipment; Automated Saws-Component, Radial Arm, Linear; and Automated Jigging, Measuring, Laser Projection. We are respected by our customers and competitors alike for delivery of innovative and objective solutions that consistently places us among the top sales representatives in North America and the world.

Contact: Mr. Jay R. Halteman • 765-751-9990 • 888-751-9914
jayh@woodtrusssystems.com • www.woodtrusssystems.com

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GREATER EFFICIENCY.

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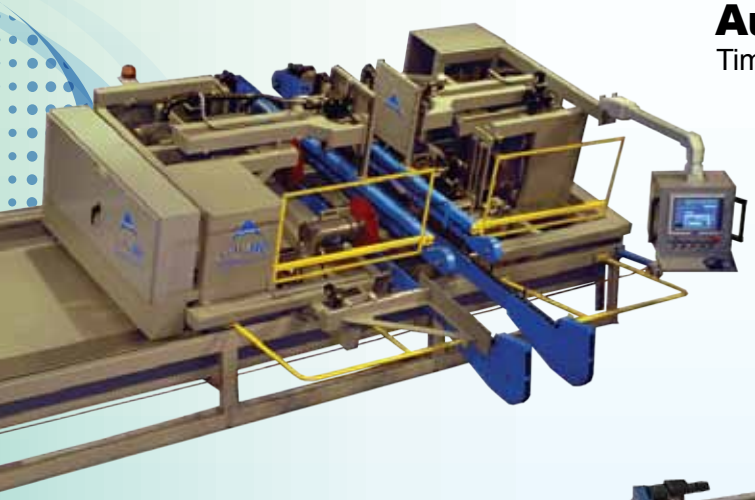
ALS 4.0

The legendary ALS is famous for its speed, reliability and efficiency. Optional automated in-feed and out-feed queue systems offer even more dramatic improvements and greater labor savings. The 4.0 can easily turn a two-man job into a solo performance!

Roller Press

Our 24” Alpine Roller Press is the perfect finish for your high capacity truss system. Using a “Smart Relay” it protects your staff and equipment with a quick shut down feature. Sealed, self-aligning tapered roller bearing assure it will provide smooth trouble-free performance. The Alpine Roller Press offers speed, strength and safety working in harmony, allowing one roller press to easily handle all trusses produced by a dual line gantry system.



AutoMill HP

Time is money, and the Alpine AutoMill HP is a real time-saver! The HP sets the industry standard for accuracy, productivity and system diagnostics. More powerful servo controls offer precise cutting, self-monitoring diagnostics and greater protection. New "Hard stop” calibration assures consistency and eliminates “limit switch” complications. The latest model reduces setup time even more, making it the fastest component saw in the industry!

RAM EasyRider

The RAM EasyRider is the most successful truss fabrication system ever introduced. Why? The answer is simple. It’s unique distribution of workload keeps the manufacturing process smooth, efficient and highly productive so you can build more trusses with less labor.

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