 août 2007

www.sbcmag.info

Equipment & Material Handling

Estimating Labor

Machine Guarding

Sawdust Emissions

Automated Material Handling

WTCA’s TRUCK Program

...and much more!
EXTREME TABLE MAKEOVER

LOOK CLOSELY. THESE ARE OLD TABLES WITH NEW 15-30 SECOND AUTOMATED JIGGING.

They’re 8-year-old MiTek® tables, to be exact
But they could just as easily be Pacific Automation, Tee-Lok, Robbins Engineering, or some other manufacturer’s tables. Of most any vintage, Walk-Through™ or continuous-top.

Because NOW the industry’s pinnacle automated jigging system, MatchPoint PLANX™, can be installed on most brands of older tables
Which means, you can be jigging trusses with computer orchestrated pucks in an average of 15-30 seconds without having to buy a new gantry system or new tables.

Without any compromises of any kind
MatchPoint PLANX™ automated jigging is simply the “hands down” best jigging system available. And you get the very same performance whether you retrofit your old tables or buy new PLANX ready tables. Dual-jigging puck PLANX™ — a puck mounted on either side of a steel plank — simply bolt on & off modified table tops and can be installed at most any spacing interval.

You’ll be building “spot on” trusses from start to finish in 3 – 5 minutes
Regardless of truss type, size or complexity, independently controlled pucks can be positioned anywhere on the truss—top or bottom, inside or outside. And because two pucks are only a plank-width apart, you can securely jig just about anything.

Increase production of all your other tables … with one PLANX system
Use your PLANX equipped system to build all of the “tricky” trusses and short runs. Additionally, use it to build the first truss of longer runs for your manual tables to use as a jigging pattern.

How it all adds up
You can double your truss production with the same labor cost and plant space. Put differently, you can cut your build-labor cost per truss by half or more. And that doesn’t take into account the production-boosting benefits of making pattern trusses for manual tables, far fewer errors and make-goods, the ability to interrupt for “emergency” jobs without losing time … not to mention, the reputation-value of accurately built trusses every time.

Find out if your tables are candidates
1.866.340.0392
www.mii.com/MatchPoint
With a precision of +/-1mm (.040")

To have a successful crosscutting operation you need both. And only HOLTEC delivers both in one system. Others can take up to two minutes per cut to achieve their nominal accuracy; HOLTEC systems deliver a precision of +/-1mm (.040") in less than 55 seconds.*

So when your goal is to increase your production, maximize your profits and minimize your costs, depend on HOLTEC. Our systems are up to 100% faster than others and the choice of more than 6,000 companies worldwide, including 1,400 in the U.S. and Canada. Companies that don’t compromise their production depend on a supplier that doesn’t compromise its performance.

• With a precision of +/-1mm (.040")*, the Autocut® system processes the entire unit of lumber and automatically brings it to a discharge position.
• The Autocut® is also available with our hydraulically operated inline Package Squaring System.
• Using a fixed-frame assembly with a moveable cutting platform, the flexible Autocut® meets your production needs in a limited space.
• The affordable HOLTEC Transcut® II Station will cleanly cut through a package of hard or softwood lumber in about a minute.
• The versatile Transcut® II Portable saw is designed to lower your cutting costs in light production environments.

If you’re ready to invest in a Package Crosscut Saw that increases your production, maximizes your profits and minimizes your costs, call us. We’ll send you an information package that includes a DVD of our systems in operation. Or visit our website at www.holtecusa.com and download your information package directly.

*All specifications and prices are subject to change without notice. Photographs may show systems with optional accessories.

HOLTEC CROSSCUT SYSTEMS
August 2007 • www.sbcmag.info

contents

38 Estimating Labor with Averages Not Sufficient
by Todd Drummond
Determine if the time is right for your plant to use time standards.

42 Automated Material Handling
by J. eny Kloskowski, PE.
Discover why material handling automation could be the missing piece to your efficiency puzzle.

50 Sealing Truss Placement Diagrams: A Follow Up to “Standing Up & Being Heard”
by Ryan J. Deeter, PE.
We continue the discussion on sealed truss placement diagrams that first began in the April issue of SBC.

56 The Truck Stops Here!
Dusting Out Responsibility & Training
by Sean O. Shields
Driving can be risky business, especially what it comes to your fleet. Learn how to cover your bases with TRUCK.

66 Structural Building Codes Matter
by John McFee
The results are in: rulings at the recent ICC Final Action Hearings make it clear that after two years of closely monitoring the building code change cycle, the industry is benefiting in a big way.

72 On Guard! A Closer Look at Safeguarding Your Manufacturing Equipment
by SBC Staff
An OSHA citation requires one manufacturer to implement a hazardous solution. How it was resolved and what to know about complying with machine-guarding standards.

76 Metal Style
by Marisa Hirsch
Read about one company that was involved in an extreme project where steel components took center stage.

84 Supplier & Professional Directory for the Structural Building Components Industry
Thank you to these companies for their significant support and sponsorship of structural building components industry programs.

2007 Gold Advertisers
(Appearing in all 9 issues)

A-NU-Prospect
BCM*
Clark Industries Inc.
Commercial Machinery Fabricators*
Eagle Metal Products*
Stiles Machinery, Inc.
Southern Pine Council*
Qualtim, Inc.
Pratt Industries Inc*
Panels Plus*
Open Joist 2000 Inc.*
MSR Lumber Producers Council*
Monet DeSauw*
MiTek Industries, Inc.*
Mango Tech USA*
Lakeside Trailer Manufacturing*
Lakeside Trailer Manufacturing*
The Koskovich Company*
Klaister Manufacturing Corp.*
The Hain Company*
Hundegger USA, Inc.*
ITW Building Components Group Inc.
Alpine Engineered Products*
ITW Building Components Group Inc.*
Intelligent Building Systems*
ITW Building Components Group Inc.*
Trussal Systems*
ITW Building Components Group Inc.*
Trussal Systems*
Klaister Manufacturing Corp.*
The Koskovich Company*
Lakeside Trailer Manufacturing*
Mango Tech USA*
MiTek Industries, Inc.*
Monet DeSauw*
MSR Lumber Producers Council*
O pen joist 2000 Inc.*
Panels Plus*
Pratt Industries Inc*
Precision Equipment Manufacturing*
Q ualtim, Inc.*
Southern Pine Council*
Stiles Machinery, Inc.*
USP Structural Connectors*
Viking - Wall Panel Systems*
Wood Truss Systems, Inc.
W TCA*

*Indicates Charter Advertiser Status
Listing based on contacts received as of 7/10/07

2007 Silver Advertisers
(Appearing in at least 5 issues)

Anthony Forest Products
C relo?
Elec. Machinery Sales, Inc.,
Filmpine USA*
Impulse Sales & Marketing Group
ITW Equipment Co. Ltd.
No-Burn, Inc.
Opalframe Software, LLC*
Pinchdan Delivery Systems
Robbins Engineering
Simson Strong-Tie Co.*
St. Laser Systems LP
Still Trailers, Inc.
TCT Manufacturing, Inc.
Theissen Lumber Co. Inc.*
T ruxall Truck Machine Co.*

For more information about our 2007 Program
Advertisers or advertising in general, visit
the SBC website at www.sbcmag.info or call
608/310-6706.

August 2007
Structural Building Components Magazine
www.sbcmag.info 7

Editor's Message

Empower these tips to achieve safety in material handling!

I

n this issue, we're focusing on material handling and equipment, which gives us the opportunity to reemphasize the safety of our shoes, socks, and shoes. Addressing safety in a truss plant can be very overwhelming. Here are four areas where each of us can take steps to help prevent accidents in our industry: machinery maintenance/examination, emergency procedures, Voluntary Protection Programs (VPP) and safety drills.

Machinery Maintenance/Examination
Many of us have machinery in our plants that is more than 20 years old. At the time of original purchase, this equipment had state-of-the-art safety guards, but a lot can change over the years. If you compare today's modern saws against your old saws, you will notice numerous subtle safety improvements, such as safety bars to prevent any moving parts from catching on hands or clothing. Take the time to evaluate both your old and new machinery to ensure that all of your equipment has the most current safety features or retrofits. Areas to examine with your safety team include the infeed/outfeed conveyors on your saws, the location of safety cords, and the accessibility of the emergency shut-off switch. On the presses—both the gantry or the finish press—check the operation of safety bars, and the effectiveness of the brakes on the roller, which is critical in avoiding an accident. Advances in the latest models allow for machinery to stop on a dime and even reverse if necessary, unlike older machines that took much longer to come to a sudden stop. In all areas of your shop, the only fail-proof safety device is the power termination to the equipment.

Emergency Procedures
Along with evaluating and updating your machinery where necessary, it's important to revisit your company's emergency procedures. A thorough and ongoing safety protocol begins with developing a safety team and using a well-defined safety program like WTCA's Operation Safety and Forklift Certification Program. Developed specifically for manufacturers in our industry, these programs will help you draft and implement all of the necessary procedures to ensure a safer working environment.

One area that we have found to be critical for our safety program at True House is the creation of a safety committee. Comprised 100 percent of plant employees from various areas of our manufacturing facility, these committee members are the most knowledgeable of our machinery and, in our minds, the ones who should decide if we are doing everything possible to create a safe working environment. The committee meets regularly to discuss any and all safety issues, from a pothole out in the yard to the location of emergency shut-off switches on machinery. The committee makes recommendations and raises safety issues to the company, and then manages works with this team to implement safety procedures and upgrades. From these safety committee meetings, it became evident that repetitive reminders are critical when driving home safety and emergency procedures. These daily reminders call attention to reviewing the operation of safety stops, along with visibly marking locations for power disconnects, and other visible safety warnings. I liken this to a parent teaching their child to cross the street. Over and over as kids, at a glance

- Remember safety when you consider material handling in your operation.
- Creating a safety committee is a great way to inspire a culture of safety and discuss areas of the plant to examine.

Continued on page 8
Editor's Message
Continued from page 7
we heard the echo of, “Look both ways before you cross.” It’s now so deeply ingrained in us that many of us still do!

Another safety improvement that has come out of our company’s committee is the development of our team concept. We are all safer when we look out for each other. For example, the sawyer/catcher or stacker/press operator work together as a team to maintain the highest safety standards, not to mention look out for each other. We believe our safety-in-numbers theory strengthens our chances of avoiding serious injury.

Voluntary Protection Programs (VPP)
Any opportunity to take your safety precautions to a higher level is to work with an agency to evaluate and continuously improve safety at your plant. At True House, we’ve worked with the University of South Florida to bring OSHA into our plant through its Voluntary Protection Program (VPP). This program is designed so that “qualified volunteers” work with component manufacturers to help you meet and exceed the OSHA safety requirements. Now some of you may be wondering, “Who invites OSHA to their plant?” I have to admit, we were skeptical at first, but it’s been a very positive experience that’s made huge inroads in building a relationship with the agency. Instead of the adversarial relationship some may think of where OSHA comes to a plant to find problems and hand out fines, we work together with the agency to make our plant safer and avoid injuries. Plus, studies have shown that companies that take part in programs like this one have an average 50 percent lower DART case rate.1 For more information, contact OSHA’s Office of Partnerships and Recognition at 202/693-2213 or visit www.osha.gov/dcsp/vpp/index.html. For more about manufacturers working with OSHA in other kinds of programs, see “OSHA: A Welcome Visitor” from the March 2007 issue.

Safety Drills
The last piece of advice I want to leave you with is to practice what you preach! Conduct emergency safety drills to see just how prepared your team is. Afterwards, evaluate what went right and what still needs to be addressed. Stage impromptu accidents on various pieces of equipment and see how everyone reacts. Just like that reminder to look both ways before crossing the street, mock accidents and safety drills are key to driving home your safety procedures so that they become second nature for everyone.

I hope that you glean at least one good idea from this article; one that could help to create a safer facility for all. SB C

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

1 www.osha.gov/tp/vpp/the_about_vpp.html

Copyright ©2007 by Truss Publications, Inc. All rights reserved.
Publisher’s Message

Good to Hear from You!

by Libby Maurer

“I’ll begin by stating the obvious: We appreciate hearing from you. When you pass along your feedback, we typically work it into a future article in one way or another. As a matter of fact, this particular issue is stacked with articles that essentially came from our readers! Thank you for contributing your thoughts and ideas to SBC’s annual Material Handling & Equipment/Supplier Listing issue.

Although it wasn’t intentional, this issue took a safety focus right before our eyes. As you read on page 7, WTCA President Barry Dixon has become a stickler for in-plant safety. Past president Scott “10-4” Arquilla alerted us to an OSHA citation in his plant involving a missing machine guard back in March. He reported back with the final resolution: check out page 72 for his story and a discussion about what to consider about guards. We hope you find these themes as important as our contributors do.

Wood truss manufacturing operations have been—and often still are—put in the same category as woodworking and furniture factories in terms of their sawdust emissions. We all know it isn’t fair or accurate, but not until now has there been a rational argument to defeat this classification. “Dust in the Wind” on page 62 offers a solution in the way of a formula meant to contend with EPA emissions requirements for particulate matter.

Two new columns grace the pages of SBC this month. If you don’t already follow a preventative maintenance program, “How to...Schedule Breakdowns” will start you off on the right foot. In Environmental Components, we will cover popular sustainability activities in the industry. We kick it off by examining how wood energy can not only be used to save on fossil fuel costs, but it can also present an additional revenue stream.

If plant operations aren’t your bag, check out “Structural Building Codes Matter” and “Sealing Truss Placement Diagrams.” The recent ICC Final Action Hearings allow us to reflect on two solid years of code work on behalf of component manufacturers. Turn to page 66 for a listing of the code changes you should be aware of this time around. And, after reading an article about California P.E. Bryan Hill’s crusade against a requirement to seal placement diagrams, one reader responded with some criticism. Ryan Dexter clarifies the industry’s position on page 50.

Southern Components recently went the extra mile to solidify its relationship with a new customer: the company supplied cold-formed steel components for an Extreme Makeover: Home Edition project. Earlier this year, the Shreveport, LA-based manufacturer was asked by a customer it hopes to do a lot of work with in the future to participate in the project. Turn to page 76 to find out whether it was all worth it in the end.

Finally, check out the annual supplier listing on page 84. The listing alone makes this an issue to keep on your desk, the shelf, or—we know you do it—in the bathroom. Speaking of hearing from you, we have one final request. If you haven’t already returned the postcard attached to the March or June/July issues, please contact us. We’re working on updating our mailing list, and we need your help to clean it up! SBC...
Technical Q & A
Determining & Verifying Truss Repairs

by Ryan J. Dexter, PE.

Many of the questions we receive at WTCA are focused around typical scope of work issues. Often these questions are from building departments asking about standard design responsibilities. That is one of the many reasons why the metal plate connected wood truss industry’s design standard, ANSI/TPI 1, contains an entire chapter devoted to this issue—Chapter 2. The following question involves verification that Repair Details were followed to repair damaged trusses.

Question
I am a building inspector who often encounters trusses that have been repaired due to damage, jobsite modifications or installation errors. How are the Repair Details determined and who is responsible for making sure the repairs are done correctly?

Answer
Sophisticated software is used to design metal plate connected wood trusses to withstand loads specified by the Building Designer congruent with the governing building code and transfer these loads throughout the truss members into the bearings, which eventually take that load into the foundation. Truss Design Drawings are included with the truss packages and indicate the maximum forces passed through the different members of the truss for the load conditions considered in the design of the truss. When a truss member is damaged, the anticipated flow of loads through the truss is disrupted, and that load must be resisted by another member(s). Thus, adjacent truss members can quickly become overloaded if a truss is damaged or altered. If a truss is damaged or altered it must be either replaced or repaired. In most cases, the truss can easily be repaired in service.

There are no standard Repair Details available to cover every situation because the extent and location of damage, the magnitude and direction of forces, and the truss configurations are different for every case. However, there are typical ways in which a repair is specified. Truss designers most often specify plywood or OSB gussets over damaged plates or joints, metal nail-on plates, lumber scabs or repair frames over broken chords or webs, or truss plates applied by a portable press. The size of the repair, and the location and number of fasteners is what is engineered based upon the given loads and forces. The National Design Specification® for Wood Construction (NDS®), published by the American Wood Council of the American Forest and Paper Association (AF&PA), is the primary resource for fastener design values in wood. This, together with the NDS Supplement for lumber, which provides the lumber design values, is what is used to prepare the proper engineered Repair Details.

There must be a specific signed and sealed Repair Detail for each and every damaged or altered truss. If the Repair Detail is followed exactly, the truss will perform to its original intended capacity. In other words, the truss as repaired will be just as strong as any undamaged or unaltered truss. If the Repair Detail is not followed exactly, the truss will perform to its original intended capacity. In other words, the truss as repaired will be just as strong as any undamaged or unaltered truss.

ANSI/TPI 1-2002, as adopted by reference in the 2006 International Building Code® (IBC) [i.e., Sections 101.2, 2303.4, and Chapter 35 “Reference Standards”], states in part:

2.6.3 “In the event of such damage and unless otherwise specified by Contract, the Contractor shall contact the appropriate design professional to determine an adequate field repair and the Contractor shall be responsible to construct any such field repair.

The latest draft of ANSI/TPI 1-2007 (which is currently undergoing Public Comment) states:

2.5.3.6 Truss Damage Responsibilities. In the event of damage, unless otherwise specified by Contract, the Contractor shall:

1. Contact the Building Designer or Truss Designer to determine an adequate field repair, and
2. Have all Truss repair designs approved in writing by the Building Designer or Truss Designer prior to the construction of the repair.
3. Be responsible to construct any such field repair consistent with the instructions and details provided.

According to our industry standard design responsibilities, the Contractor needs to obtain a Repair Detail and construct the repair exactly as stated by the Building Designer or Truss Designer. Building Officials should be provided with the Repair Details.

Sample Repair Detail to repair a truss after it was shortened four inches (courtesy of BCSI-B5: Truss Damage, Jobsite Modifications & Installation Errors)

Q & A

at a glance

- When a truss member is damaged, the anticipated flow of loads through the truss is disrupted, and that load must be resisted by another member(s). Thus, adjacent truss members can quickly become overloaded.
- There are no “standard” Repair Details available to cover every situation.
- If the Repair Detail is followed exactly, the truss will perform to its original intended capacity.
- Therefore, any provisions concerning the implementation and/or verification of truss repairs by the Truss Manufacturer/Truss Designer must be agreed to ahead of time during the initial contracting process.

Key Industry Definitions from ANSI/TPI 1

Building Designer:
Owner of the Building or the person that contracts with the Owner for the design of the Framing Structural System and/or who is responsible for the preparation of the Construction Documents.

Building Official:
Officer or other designated authority charged with the administration and enforcement of the Building Code, or a duly authorized representative.

Contract:
Legally recognized agreement between two parties.

Contractor:
Owner of a Building, or the person who contracts with the Owner, who constructs the Building in accordance with the Construction Documents and the Truss Submittal Package. The term “Contractor” shall include those subcontractors who have a direct contract with the Contractor to construct all or a portion of the construction.

Truss Design Drawing:
Written, graphic and pictorial depiction of an individual Truss that includes the information required in ANSI/TPI 1.

Truss Designer:
Person responsible for the preparation of the Truss Design Drawings.

Truss Manufacturer:
Person engaged in the fabrication of Trusses.
Repair Detail and it should be reviewed and verified in the same manner as with a Truss Design Drawing. It is possible to have someone other than the Contractor and Building Inspector construct and verify that truss repairs. A Design/Build firm or the Truss Manufacturer/Truss Designer could be contracted to come to the jobsite to perform the repair and verify the repairs were done properly. Getting paid for this work can be a point of contention, since the cost associated with the repair construction and verification can be high. If, however, a special repair provision is provided in the permit application and is then known up front, the responsibility of verifying truss repairs can be written into the contract. The typical scope of work for a Truss Manufacturer/Truss Designer includes the design of repairs, if needed, but not the construction and verification of those repairs.

Therefore, any provisions concerning the implementation and/or verification of truss repairs by the Truss Manufacturer/Truss Designer must be agreed to ahead of time during the initial contracting process.

To pose a question for this column, call the WTCA technical department at 608/274-4849 or email technicalqa@sbcmag.info.
High tech CAD systems allow you to engineer trusses more efficiently.

But that is only useful if your MSR supplier has the profiles you need.

Canfor is North America’s most reliable MSR producer – offering an MSR supply you can count on. As the world’s largest MSR lumber producer, Canfor’s experience, flexibility and scale enables us to offer our committed customers the supply of core products they need, when they need them. So if you need reliable MSR that’s always available, become a Canfor committed customer. You will get all the reliable Canfor MSR you need.
Understanding the OSHA Powered Industrial Truck (Forklift) Standard

by Molly E. Butz

A thorough understanding of the standard begins with defining what constitutes a PIT. OSHA describes a PIT as “any mobile, power-propelled truck used to carry, push, pull, lift, stack or tier materials” that can “be ridden or controlled by a walking operator.” Remember, this does include powered hand trucks so any employees using those types of equipment need to be trained as well. Visit www.osha.gov/SLTC/poweredindustrialtrucks/standards.html to view OSHA’s standard and a listing of additional federal standards.

What to Teach?

Once you have identified the employees that will be operating the PITs in your facility (this should incorporate part-time operators as well), you can begin the training process. OSHA requires you, the employer, to develop and implement a training program “based on the general principles of safe truck operation, the types of vehicle(s) being used in the workplace, the hazards of the workplace created by the use of the vehicle(s),” and the general safety requirements of the standard. Both formal (classroom/presentation) and practical (demonstrations/hands-on) training have to be provided and you will also need to certify that each operator has been properly trained and evaluated. (This doesn’t necessarily mean a test, just some method of evaluation.)

Component manufacturers have a huge, windfall-like opportunity before them.

The opportunity is not of our making. It’s the result of a market downturn occurring in the midst of an automated equipment “revolution.”

Automated equipment, of course, converts the labor-intensive process of truss and panel production to a largely computer-orchestrated mechanical process, cutting labor costs by multiples.

Thus, automation’s impact on product margins – the difference between what you sell a product for and what it costs you to make it – is huge, based on labor cost savings alone. Those extra margin dollars are simply sitting there, waiting to be collected: a single, windfall-like opportunity to dramatically and perpetually increase margins.

And right now – in the midst of a downturn, while business is slow – is the ideal time to install. You have time to re-locate equipment, institute new automated procedures, train personnel, and go through the learning curve.

The problem is investing when business is slow and dollars tight. So we’ve made $25,000,000 interest-free dollars available to fund the installation of automated equipment NOW.

If you choose to take advantage of this “we invest – you automate” program, you will immediately begin turning around declining profits. And when the industry rebounds, you will emerge a far different, substantially more profitable company. In short, you will have engineered your own turnaround – both short term and long term – with automation.

The Automated Turnaround.

For more information go to www.mil.com/25MillionFund.
There are numerous critical topics your training program will need to cover (see inset on page 18). You also need to note that your operators must be trained for each type of PIT they will be asked to use. Moreover, the training you provide needs to address the unique characteristics associated with each type of vehicle. In addition, simply showing your employees a presentation on the various aspects of PIT safety does not meet the full requirements of the standard; you must also present information about hazards and environments that are specific to your facility.

Who Should Teach?
That brings us to the training process. One of the most common misconceptions about the requirements of the federal PIT training program is that in order to be a qualified trainer a person must be certified by OSHA. This isn’t necessarily the case. The standard simply states that the PIT operator training and evaluation process “shall be conducted by persons who have the knowledge, training, and experience to train powered industrial truck operators and evaluate their competence.” In some cases, this may be a person that has been trained by an outside resource and earned a trainer certification, in others, it may be someone who has been working in your facility for a long time and has demonstrated the knowledge and ability to be a skilled PIT operator and trainer.

Certification & Recordkeeping
Another common myth is that PIT operators must be “licensed.” In actuality, once your employee training is complete and you have evaluated your drivers (and they pass), they are considered certified. Unless you’d like, no pomp and circumstance is necessary as long as you’re keeping good records. On the other hand, companies often choose to offer a certified operator card and/or certificate to their employees as proof of their training and evaluation.

Your recordkeeping will be the key to your program. These are the most important things to remember:

- A written PIT certification record must include the name of the PIT operator, date of training, date of evaluation and identity of the person(s) performing the training/evaluation.
- Each time you certify a new PIT operator, update your Annual PIT Operator Status Report.
- An evaluation of each PIT operator’s performance needs to be conducted at least once every three years.
- You must retain the most recent certification record for each of your PIT operators, which will be three years in most cases.

Refresher Training
Occasionally, refresher training may need to be conducted. Any of the following circumstances require refresher training, including an evaluation:
- The operator has been operating the vehicle in an unsafe manner.
- The operator has been involved in an accident or near-miss incident.
- The operator has received an evaluation that reveals that the operator is not operating the PIT safely.
- The operator is assigned to drive a different type of PIT.
- A condition in the workplace changes in a manner that could affect safe operation of the PIT.

Not only is PIT training a federal requirement, it’s also really crucial to the safety and well-being of your employees. It is estimated that PIT’s cause approximately 100 fatalities and more than 36,000 serious injuries annually, often because of inadequate training. Keeping your operators certified can prevent your company from becoming a statistic! Safety first! SBC

Profit from the automation promise.

Production lines employ a significant amount of investment. Weinmann automated production lines from Stiles Machinery employ a promise – increased production capacity and increased product quality at a lower cost. Only the precision engineering offered by Weinmann can deliver on that promise. The only truly software driven production line available, Weinmann consistently builds exterior wall panels at a rate of 16 feet every 2.5 minutes while reducing manpower requirements by 75 percent. When you work with Stiles you are automatically connected to our Total Production Solutions™ delivering superior equipment, technology and expertise. Employ the automation promise. In the U.S., call Michael Miller, Director of Building Automation, at 616.698.7500 or mmiller@stilesmachinery.com.
Choose your own training path in Columbus!

A ttendees in Columbus will have numerous opportunities to discover new possibilities and learn from the wide variety of educational sessions scheduled for BCMC 2007. This year BCMC will be covering topics in design, sales, steel...you name it, we got it. There will be three time slots for educational sessions, and each will feature four sessions attendees may choose from.

Design From All Angles
There are many different ways to address component design in your operation. Before you hire new technicians, it is imperative that you understand the economics of design because then you will know what reasonable performance expectations are for that new hire.

Attendees who want to learn about the mindset needed for developing efficient design, tricks of the trade and obstacles of efficient design from someone with many years of experience under their belt won’t want to miss “Economics of Design” featuring Joe Heinsman, P.E., Engineering Manager at Stock Building Supply, Inc.

Roger Turpen, a truss technician at Carter-Lee Building Components (a Pro-Build Company), will speak on “Measurements for Design and Productivity.” He will help attendees discover what performance they should expect out of a designer and how to track issues that affect good performance, among other things.

Attendees who are looking for a creative outlet can attend Bob Dayhoff’s session on “Creative Truss Repairs.” This industry veteran from Shelter Systems Limited will put a twist on design and encourage attendees to think outside the box while offering actual solutions to repair problems and discuss how to work with engineering partners.

Incentive Compensation & Benchmarking
If you are looking to improve morale at your plant as well as increase your profitability, chances are good you are considering an employee incentive program and a benchmarking system in your plant. These two practices go hand-in-hand because a successful incentive program can present more figures to benchmark. When employees are working toward an incentive, they automatically buy in to measuring and tracking their productivity; it becomes game-like. This year two sessions are devoted to these useful strategies.

Two industry veterans with a combined 40 years of experience will team up for BCMC 2007.
Editor's Message
Continued from page 7

“Benchmarking: Find The Methods That Work For You.” Scott Arquilla (Best Homes, Inc.) and Keith Hershey (WTCA) will cover various methods of capturing cost, what and how to measure, costs associated with benchmarking your company, and how to relate everything back to your business.

Attendees who missed the popular 2006 session “Incentive Compensation: If & How” with Joe Hikel of Shelter Systems Limited have one more shot. He’s back again this year, and he will talk about team vs. individual, design vs. production, open book vs. closed book management and when incentives become entitlement. Get there early to avoid standing room only crowds!

Steel Components
In the last five years, the industry has seen a surge in cold-formed steel components. Once “fringe” product lines, these components are rapidly gaining acceptance in the marketplace. Now is the perfect time to explore this business and how diversifying into steel can actually expand your business. Whether you are curious about what it takes to start up or you led the charge in supplying steel components, “Mysteries and Myths of the Cold-Formed Steel Industry” with Bama Trusses VP of Sales, Joe Odgers presenting, is sure to pique your interest. This industry enthusiast will go over the cold-formed steel market, where the market is headed and why it makes perfect sense for truss manufacturers to add steel as part of their long term strategic plans.

Wall Panels
Wall panels are another product that have been gaining popularity in the marketplace. Wall panel aficionados and inquirers alike will benefit from the joint knowledge of Jason Blenker (Blenker Building Systems) and Casey Carey (Carter Components). Together they will talk about “Changing Your Panel Perspective.” They compare stick framing and wall panel framing in the field, provide a cost analysis, discuss plant layout and equipment needed and talk about costs and liability.

Self-Improvement & Personnel
Starting at the grassroots is one of the best ways to initiate change. Whether you are looking to improve yourself personally, or kick-start your staff, the first step is recognizing areas that could use development.

Bryan Dodge (Dodge Development, Inc.), a radio personality and author, will give two presentations. In “How to Build a Better You” he will discuss self-improvement and personal development, and success habits of the wealthy. “Life is too short not to be happy, and life is too long not to do well,” is the idea that his teachings are based upon. Bryan is the host of the “Build a Better You” Radio Show on Dallas/Fort Worth’s WBAP 820 AM and is the author of three professional development audio programs.

Dodge’s second session will be “Taking Ownership of Leadership of Your Life.” He will explain the three main laws of leadership, address central issues faced by all business owners and managers and cover time management strategies in this session.

A very popular guest speaker at BCMC 2006 was Bryan Arzani of the Results Group, and BCMC will bring him back for 2007! He will also be giving two presentations this year. The first session is “Power Tools for Hiring Producers Not Pretenders,” in which he will talk about interviews, turnover, how to avoid job failures in new hires, and power tools to help recruit top producers.

“Why Performance Reviews Don’t Work” is Arzani’s second session. He will go over the top three reasons performance reviews are not effective, the key principles for improving performance, strategies for defining expectations, and how to make performance reviews objective and not subjective.

Special: Accident Investigation
Issues with truss misinstallation on the jobsite or structural member failures in occupied buildings can cause major disruption and a hefty price tag. All of the sudden your time is consumed with jobsite questions/concerns, problem solving, communicating with your insurance company and your attorney. This is not the time to begin thinking about your approach to investigating the accident and aligning your company to deal with these situations proactively and efficiently. Hear an expert’s advice on what you need to know if you ever find yourself in a similar position. WTCA’s Executive Director, Kirk Grundahl, will share his forensic engineering experience, which he has gained in his 29 years serving the industry.

And don’t forget that the component manufacturer roundtables are another great opportunity for you to learn and broaden your horizons! For information about the dates and times of the sessions and roundtables, visit www bcmc show.com. Make sure you register by Saturday, August 25, so that you can receive the early-bird pricing! We look forward to seeing you in Columbus! SBC

Component manufacturer roundtables are another great opportunity for you to learn and broaden your horizons!

Bryan Dodge
Bryan Dodge is a popular professional speaker, radio personality, and author, who made over 250 speaking appearances in 2006 alone. He focuses on leadership principles, accelerating personal and professional development, and success habits of the wealthy. "Life is too short not to be happy, and life is too long not to do well," is the idea that his teachings are based upon. Bryan is the host of the "Build a Better You" Radio Show on Dallas/Fort Worth's WBAP 820 AM and is the author of three professional development audio programs.

Discover How The MangoTech AUTO PLATE MARKER Gives YOU Increased Productivity And Massive Cost Savings!

The Mango Plate Marker is an IT and machinery system that allows the operator to cut wall plates to length and mark the position of the wall studs and cut other components. The Mango Plate Marker is another time and cost saving innovation available only from MangoTech.

CALL 1-866-GO-MANGO for further information.

Features include:
• Automatically positions plate ready for marking
• Reduces labor skills, time and costs
• Fast manual marking method
• Smooth and accurate cutting of raw materials
• Combines technology with economics
• Can be retro-fitted to most existing saws
• Higher productivity - without the high cost!
The first phase of In-Plant Basic Training is on track to be released in both English and Spanish at BCMC 2007 in Columbus, OH. This first phase consists of ten core modules, covering the following topics: introduction to the industry, safety, terms, tools, quality control, laborer, plates, truss design drawings, assembly and handling.

Hitting the Basics Hard

These ten core modules were created specifically for employees who are new to the industry, or who would like a refresher on the basics. Modules are clearly-worded and very visual, making the information within them easy to grasp and increasing retention. Companies will be able to show the modules to their employees in whatever order and at whatever speed makes sense for their operations and each employee’s job.

It will be reinforced for concepts introduced through In-Plant Basic Training to be reinforced by hands-on training in the plant. However, the program will give employees a very strong foundation to build on, and it will do so without taking valuable time away from managers and experienced employees. Time currently spent going through basic industry and plant information with new hires will be put to better use. For example, new employees will come away from the Terms module and already be familiar with most basic terminology (e.g., jig, ply, chase opening).

Companies may also have the option of providing participants with program binders, which will contain documents such as lists of terms, safety tips and pertinent WTCA Texas Truss Manufacturers (TTMs) related to things addressed in the program.

That way, employees will be able to refer to these binders to refresh their memories.

More to Come

After the release of the first phase of In-Plant Basic Training, several subsequent phases are planned. Modules in these phases will progress well beyond basic information into more advanced and specialized training ranging in topics from girders to saws, and all the way up to modules specifically geared toward supervisors and managers. This program is set to become a flexible training tool with the capability of guiding an employee from “new hire” all the way up to an upper level production manager, with the option of starting or ending anywhere in between.

In-Plant Basic Training is shaping up to be a powerful program that will not only help form highly-trained and productive employees, but will also help companies save time and money.

WTCA Update
In-Plant Basic Training

by Marisa Hirsch

T he process of training and acclimating new employees into a component manufacturing production plant can be a time-consuming and mind-numbing process—especially within a company that may do a lot of hiring and/or have a higher turnover rate. WTCA is aiming to help relieve part of this training burden with a new program, In-Plant Basic Training.

The first phase of In-Plant Basic Training is on track to be released in both English and Spanish at BCMC 2007 in Columbus, OH. This first phase consists of ten core modules, covering the following topics: introduction to the industry, safety, terms, tools, quality control, laborer, plates, truss design drawings, assembly and handling.

Hitting the Basics Hard

These ten core modules were created specifically for employees who are new to the industry, or who would like a refresher on the basics. Modules are clearly-worded and very visual, making the information within them easy to grasp and increasing retention. Companies will be able to show the modules to their employees in whatever order and at whatever speed makes sense for their operations and each employee’s job.

It will be reinforced for concepts introduced through In-Plant Basic Training to be reinforced by hands-on training in the plant. However, the program will give employees a very strong foundation to build on, and it will do so without taking valuable time away from managers and experienced employees. Time currently spent going through basic industry and plant information with new hires will be put to better use. For example, new employees will come away from the Terms module and already be familiar with most basic terminology (e.g., jig, ply, chase opening).

Companies may also have the option of providing participants with program binders, which will contain documents such as lists of terms, safety tips and pertinent WTCA Texas Truss Manufacturers (TTMs) related to things addressed in the program.

That way, employees will be able to refer to these binders to refresh their memories.

More to Come

After the release of the first phase of In-Plant Basic Training, several subsequent phases are planned. Modules in these phases will progress well beyond basic information into more advanced and specialized training ranging in topics from girders to saws, and all the way up to modules specifically geared toward supervisors and managers. This program is set to become a flexible training tool with the capability of guiding an employee from “new hire” all the way up to an upper level production manager, with the option of starting or ending anywhere in between.

In-Plant Basic Training is shaping up to be a powerful program that will not only help form highly-trained and productive employees, but will also help companies save time and money.

by Marisa Hirsch

T he process of training and acclimating new employees into a component manufacturing production plant can be a time-consuming and mind-numbing process—especially within a company that may do a lot of hiring and/or have a higher turnover rate. WTCA is aiming to help relieve part of this training burden with a new program, In-Plant Basic Training.

The first phase of In-Plant Basic Training is on track to be released in both English and Spanish at BCMC 2007 in Columbus, OH. This first phase consists of ten core modules, covering the following topics: introduction to the industry, safety, terms, tools, quality control, laborer, plates, truss design drawings, assembly and handling.

Hitting the Basics Hard

These ten core modules were created specifically for employees who are new to the industry, or who would like a refresher on the basics. Modules are clearly-worded and very visual, making the information within them easy to grasp and increasing retention. Companies will be able to show the modules to their employees in whatever order and at whatever speed makes sense for their operations and each employee’s job.

It will be reinforced for concepts introduced through In-Plant Basic Training to be reinforced by hands-on training in the plant. However, the program will give employees a very strong foundation to build on, and it will do so without taking valuable time away from managers and experienced employees. Time currently spent going through basic industry and plant information with new hires will be put to better use. For example, new employees will come away from the Terms module and already be familiar with most basic terminology (e.g., jig, ply, chase opening).

Companies may also have the option of providing participants with program binders, which will contain documents such as lists of terms, safety tips and pertinent WTCA Texas Truss Manufacturers (TTMs) related to things addressed in the program.

That way, employees will be able to refer to these binders to refresh their memories.

More to Come

After the release of the first phase of In-Plant Basic Training, several subsequent phases are planned. Modules in these phases will progress well beyond basic information into more advanced and specialized training ranging in topics from girders to saws, and all the way up to modules specifically geared toward supervisors and managers. This program is set to become a flexible training tool with the capability of guiding an employee from “new hire” all the way up to an upper level production manager, with the option of starting or ending anywhere in between.

In-Plant Basic Training is shaping up to be a powerful program that will not only help form highly-trained and productive employees, but will also help companies save time and money.

by Marisa Hirsch

T he process of training and acclimating new employees into a component manufacturing production plant can be a time-consuming and mind-numbing process—especially within a company that may do a lot of hiring and/or have a higher turnover rate. WTCA is aiming to help relieve part of this training burden with a new program, In-Plant Basic Training.

The first phase of In-Plant Basic Training is on track to be released in both English and Spanish at BCMC 2007 in Columbus, OH. This first phase consists of ten core modules, covering the following topics: introduction to the industry, safety, terms, tools, quality control, laborer, plates, truss design drawings, assembly and handling.

Hitting the Basics Hard

These ten core modules were created specifically for employees who are new to the industry, or who would like a refresher on the basics. Modules are clearly-worded and very visual, making the information within them easy to grasp and increasing retention. Companies will be able to show the modules to their employees in whatever order and at whatever speed makes sense for their operations and each employee’s job.

It will be reinforced for concepts introduced through In-Plant Basic Training to be reinforced by hands-on training in the plant. However, the program will give employees a very strong foundation to build on, and it will do so without taking valuable time away from managers and experienced employees. Time currently spent going through basic industry and plant information with new hires will be put to better use. For example, new employees will come away from the Terms module and already be familiar with most basic terminology (e.g., jig, ply, chase opening).

Companies may also have the option of providing participants with program binders, which will contain documents such as lists of terms, safety tips and pertinent WTCA Texas Truss Manufacturers (TTMs) related to things addressed in the program.

That way, employees will be able to refer to these binders to refresh their memories.

More to Come

After the release of the first phase of In-Plant Basic Training, several subsequent phases are planned. Modules in these phases will progress well beyond basic information into more advanced and specialized training ranging in topics from girders to saws, and all the way up to modules specifically geared toward supervisors and managers. This program is set to become a flexible training tool with the capability of guiding an employee from “new hire” all the way up to an upper level production manager, with the option of starting or ending anywhere in between.

In-Plant Basic Training is shaping up to be a powerful program that will not only help form highly-trained and productive employees, but will also help companies save time and money. 

SB C

by Marisa Hirsch

T he process of training and acclimating new employees into a component manufacturing production plant can be a time-consuming and mind-numbing process—especially within a company that may do a lot of hiring and/or have a higher turnover rate. WTCA is aiming to help relieve part of this training burden with a new program, In-Plant Basic Training.

The first phase of In-Plant Basic Training is on track to be released in both English and Spanish at BCMC 2007 in Columbus, OH. This first phase consists of ten core modules, covering the following topics: introduction to the industry, safety, terms, tools, quality control, laborer, plates, truss design drawings, assembly and handling.

Hitting the Basics Hard

These ten core modules were created specifically for employees who are new to the industry, or who would like a refresher on the basics. Modules are clearly-worded and very visual, making the information within them easy to grasp and increasing retention. Companies will be able to show the modules to their employees in whatever order and at whatever speed makes sense for their operations and each employee’s job.

It will be reinforced for concepts introduced through In-Plant Basic Training to be reinforced by hands-on training in the plant. However, the program will give employees a very strong foundation to build on, and it will do so without taking valuable time away from managers and experienced employees. Time currently spent going through basic industry and plant information with new hires will be put to better use. For example, new employees will come away from the Terms module and already be familiar with most basic terminology (e.g., jig, ply, chase opening).

Companies may also have the option of providing participants with program binders, which will contain documents such as lists of terms, safety tips and pertinent WTCA Texas Truss Manufacturers (TTMs) related to things addressed in the program.

That way, employees will be able to refer to these binders to refresh their memories.

More to Come

After the release of the first phase of In-Plant Basic Training, several subsequent phases are planned. Modules in these phases will progress well beyond basic information into more advanced and specialized training ranging in topics from girders to saws, and all the way up to modules specifically geared toward supervisors and managers. This program is set to become a flexible training tool with the capability of guiding an employee from “new hire” all the way up to an upper level production manager, with the option of starting or ending anywhere in between.

In-Plant Basic Training is shaping up to be a powerful program that will not only help form highly-trained and productive employees, but will also help companies save time and money.
How to...  
Schedule Breakdowns Through Preventative Maintenance

by Keith Hershey & Libby Maurer

Five steps to creating—and using—a simple machine maintenance program.

The fast pace of truss and wall production causes us to always look for ways to pull extra seconds out of our assembly times. As we have written before and all know, a few seconds saved per truss can lead to substantial savings by the end of the year. But none of the extra steps you took to shave seconds off a set-up matter when you are under the gun to make a delivery, the pressure is on the line, and out of nowhere... a machine brakes down. Or you’re on the pace to have a record week for number of pieces out the door, the crew is giving 110 percent and the press stops in the middle of the truss. We all have stories like these.

It may only take an hour to fix the machine, but you have lost 14,400 seconds of time for a crew of four assemblers. Now you may have prevented some of this loss by reassigning the crew to different stations throughout the shop, but there’s no making up for the pace that was lost on the line.

So how do you prevent breakdowns from happening at inopportune times? Schedule your breakdowns. This may seem like a drastic step, but by implementing this, you should be able to prevent about 90 percent of those “emergency” breakdowns that completely shut down production.

How do you prevent breakdowns from happening at inopportune times? Schedule your breakdowns.

In the August 2006 issue, a Safety Scene article on pre-shift checklists focused on the importance of giving each machine a “once-over” prior to the start of each new shift. This concept is similar, but far more comprehensive. Used in conjunction with pre-shift checklists, a preventative maintenance program will give you a hold on your maintenance needs and will also ensure safety of your crew.

If you don’t already have some sort of formal preventative maintenance program in place, your biggest challenge likely will be to get everyone on board with the idea. This may seem like a drastic step, but by implementing this, you should be able to prevent about 90 percent of those “emergency” breakdowns that completely shut down production.

Step 1: Analyze Maintenance Philosophy

Traditionally, maintenance departments run themselves and require very little supervision. However, they tend to repair machines after they have broken down. Changing your maintenance philosophy from reactive to preventative is the ideal course of action. Take a moment to evaluate your maintenance department—does it fall into the “reactive” category? If so, a change in how maintenance is viewed will be your first step. This could start with a simple informal conversation with your maintenance manager or a department meeting to plant the idea.

Step 2: Develop Checklist

The second step is to establish a preventative maintenance program that reports back to operations management the problems on a machine by machine basis. While it would be great to go through each and every part of each machine every week, this approach is generally not practical or necessary. Instead, make a list of five to ten key items to look at, grease, or check for adjustment on each machine. Another important function of the machine evaluation is to pinpoint areas that need immediate attention. For instance, if broken safeties or removed guards are found during an evaluation, the machine should be deemed unsuitable for operation until those items are fixed. Many major accidents in component manufacturing operations can be attributed to safety issues being removed or not working properly, so this is a very important item on this checklist.

Other items on this list need to focus on parts that are likely to wear out or areas of the machine that have been problematic in the past. See the sample checklist on page 30 for some additional recommendations. This list is key to establishing a preventative maintenance program.

Step 3: Machine Evaluation

Next, you’ll want to choose a day of the week to go through each machine and evaluate them based on the items on your checklist. First thing Monday morning is a natural choice for many manufacturers. For this step, it’s a good idea to conduct the evaluation with the machine’s chief operator because he will be the first to notice a change in the machine’s performance. The main objective during your evaluation is to write down everything that you see wrong or out of place on a machine. While reviewing and reporting on the key item list, the hidden benefit is the fact that each machine will be given a little personal attention each week. This process should only take one to two hours for the whole plant (although your first few times may take a bit longer).

Having your maintenance department start off the week by reviewing, not fixing, each machine in the plant with a clipboard, pen and this checklist gives you a list with which to start scheduling. For benchmarking purposes, consider saving your weekly repair/maintenance logs. It may also help you determine when a machine needs to be replaced or overhauled.

Step 4: Review Results with Maintenance Manager

Immediately after completion, review this checklist with the head of maintenance to determine what is critical to fix and what needs to be watched. This is the point where you can schedule your down time on the machine to coincide with your production. If the maintenance department knows when they will be fixing a machine they will be able to speed the process up by having the parts on hand and their tools out and ready to go as soon as production is completed on the machine. In many cases this can save hours of downtime on the machine.

Step 5: Create the Week’s Breakdown Schedule

Now that the maintenance supervisor is ready to work with the production manager to fit in all the machine breakdowns for the week, it will be critical for these two people to communicate well in order to shut down a machine at the right time and shuffle personnel. Truth is, this proactive approach to equipment maintenance is bound to make the production manager’s life easier.

For example, it’s Monday and from looking at my checklist, I know the breakpads on the gantry roller system have to be replaced this week. I know from experience that this will take roughly three hours. Production tells me there is a big job due out tomorrow, so Wednesday afternoon is my best bet for...
How to...
Continued from page 29

getting at the roller. We agree that from 2 p.m. to 5 p.m., the machine will be down. Between now and then, my job is to make sure I have everything (parts, tools, etc.) here. The production supervisor will re-assign workers to other jobs in the plant so no time is lost.

If your checklist is being used properly, maintenance should be able to fit in all the breakdowns for the whole week. Now this will vary from week to week, but for the most part, you should be able to schedule inside of production that week.

Preventative maintenance is a culture very similar to a safety program. You must follow through and fix the problems that exist. If you implement this successfully, you will see a dramatic reduction of lost time breakdowns in a fairly short period of time. Also by taking care of machinery on a weekly basis, the operators will see the preventative culture and bring concerns to the maintenance department long before a break occurs.

Keep in mind that grease, tightening a chain or belt, or taking the time to clean under or around a conveyor belt when under your control and scheduled into the normal plant operations is a minor cost as compared to a breakdown when you’re under the gun. Weekly machine evaluations and scheduling breakdowns make it easy to keep track of your long-term maintenance plan and are an excellent way to keep production moving right along.

MACHINE X: MAINTENANCE CHECKLIST

Week of: 
Name: 
Supervisor Initials: 
Machine Designation/Type: 

<table>
<thead>
<tr>
<th>CHECK POINTS</th>
<th>REPAIRS NOT NEEDED</th>
<th>REPAIRS NEEDED</th>
<th>EST. FIX TIME</th>
<th>PARTS NEEDED</th>
<th>COMMENTS (include operators’ comments)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Stop(s): Shuts down all motors when pushed.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency Stop Cable(s): Shuts down all motors when pulled.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency Stop Photo Eyeball: Shuts down all motors when blocked.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Machine Guarding: In place, secured and in good condition.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Motor Brakes: Working correctly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shafts, Chains &amp; Sprockets: No damage or unusual wear/tear.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area Cleanliness: Clear of all scraps, plates, banding and other trip hazards.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lubrication: All appropriate parts are lubricated properly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operator Controls: All lights, handheld controls and foot pedals in good condition.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lighting: All lights are working correctly; all light guards are in place.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For reader service, go to www.sbcmag.info/cmf.htm
Wood energy is the truss industry’s best kept economic secret. A truss company’s success already rests on wood’s structural value as a strong, reliable fiber, but what is not always recognized is that wood is also a powerful and valuable contributor to British thermal unit (BTU) production. On a daily basis, the industry produces high quality wood products resulting in an abundance of wood residue and increasingly, companies in the industry have recognized the value of their wood residue by selling it as mulch or animal bedding. However, this same wood residue as heating fuel has a quantifiable and often higher dollar value than selling it for mulch. In these times of fluctuating fossil fuel prices, spurred by questionable supply and world politics, wood-based industries are uniquely positioned to create a self-sustainable, low cost fuel alternative for their own operations, but they also have the opportunity to create new business ventures by selling their wood residue to other industries looking to reduce fuel costs. The challenge within the industry is to overcome misconceptions about burning wood for fuel and to elevate the discussion of wood’s BTU production advantages. The message is straightforward—wood has economic value beyond the finished truss product.

By far, the most compelling reason to use wood for fuel is because there is real money to be saved and made. Dry wood residue (ten percent moisture content) valued at $35/ton will produce a million BTUs for about $3.27. Green wood residue valued $25/ton will produce a million BTUs for about $3.24. Considering that fossil fuel costs in most parts of the country are now over $9.00 a million BTU, any company which has wood residue can generate significant energy savings by burning this residue for heat in the winter. For example, if a manufacturer is paying $10,000 a year to heat 10,000 sq. ft. and is getting $3.27/million by selling residue for $25/ton while burning gas for $9/million, burning the wood instead of selling it will save him 65 percent of his fuel cost (3.27/9.0). For this hypothetical case, the net cost for heating will be $3,600, not $10,000. If your business generates wood residue and you are not burning wood for BTU production, please take a minute and think about what is stopping you. Chances are your concerns fall into the following areas: labor requirements, safety concerns or insurance barriers.

Encouraging Wood Fuel Use by Overcoming Misconceptions

The key to encouraging wood energy use is to acknowledge and overcome some common misconceptions. These concerns need to be addressed head on as they are powerful, but frequently overstated influencers. Additional labor cost concerns can be offset by the overwhelming cost savings gained by using wood for fuel. As a practical matter, most wood scraps need to be handled, mulched or transported from the operations area anyway, so moving it to a furnace may not require much additional labor focus. Whether large multi-location operations or a single plant, companies using wood furnaces are often quick to buy additional systems because they have already experienced the freedom of fuel independence, lack of gas or oil bills and the satisfaction of “recycling” their wood waste in an environmentally sound manner.

at a glance

- The wood residue produced by the industry has monetary value.
- Dry wood residue can produce one million BTUs for about one-third the cost of one million BTUs of fossil fuel.
- When misconceptions about wood energy are overcome, the result is decreased fuel costs and additional revenue sources for manufacturers.

What is your wood waste worth?
Environmental Components
Continued from page 32

Burning wood in a wood-based facility naturally creates a perception that there may be a safety issue. As with any piece of capital equipment brought into a plant, sound business practice makes it essential to do your homework when selecting a combustion system. To start, federal regulations monitor safety and emissions control. Wood energy users must be diligent to ensure they are purchasing a system from a company that knows wood energy, has a proven record in the marketplace and complies with the necessary Underwriters Laboratories or EPA standards and third party certification thereof. Unfortunately, there are wood burning systems in the market today that, due to their excessive smoking and highly visible outdoor residential locations, have reinforced misconceptions that wood burning is unclean and polluting. In fact, the opposite is true. When an efficient, low emission furnace burns wood, it not only keeps emissions down, but also recycles the wood’s carbon with greenhouse gas-free burning.

Lack of understanding in wood energy’s safety record is sometimes evident by an insurance company’s occasional resistance to insure. Many small individual agents or agencies have not been sufficiently exposed to wood burning, so their first reaction can be to resist its use. Again, education on an individual furnace company’s performance history, safety record and National Standard compliance permits insurance companies to insure the plant. This issue, like all perceptual barriers to using wood for fuel, will be minimized as more companies in wood industries increasingly convert to wood fuel.

It is surprising that wood burning isn’t more prevalent today because the potential for lucrative local wood fuel expansion is only limited by the amount of scrap produced. Once individual heating needs are satisfied, truss plants could use their excess wood waste to create local markets for BTU production. Throughout the country, small and large company’s budgets are suffering from the impact of increasing fuel prices. If you took a survey of businesses in a 30-mile radius of your plant, you most likely will find these businesses would jump at the chance for a low cost, clean burning heating alternative. Selling your wood residue to these local businesses can create a steady revenue stream and increase dependence on wood energy, which ultimately increases the value of your wood.

Wood-based industries need to get the word out about wood energy’s benefits for the country and for the industry. At the state and federal levels, money is currently focused on wood electricity generation and wood-based liquid fuels. Wood industry lobbying efforts do exist, but are currently focused on large scale centralized BTU production, while smaller, local opportunities (that can be fostered by truss companies) are secondary. The irony is that wood BTU production does not need the subsidy to be cost effective, but perhaps a temporary subsidy would shine a light on the possibilities, and get people thinking through the advantages of wood fuel.

By eliminating the “myths” and misconceptions about wood energy, the truss industry can empower individual companies to capitalize on the economic value of their wood fuel. Safe, clean burning wood combustion systems are available for small and large heating needs. In times like these when operating budgets are under pressure, wood energy is a sure way to gain some control over costs and real dollar savings.

Over the last 20 years, Charles Cary has been involved with over 400 wood energy projects including over 100 wood waste boiler and boiler retrofit installations. He has been responsible for all aspects of wood energy systems, including design, consulting, permitting and installation. Charlie has a B.A. in Economics from Hamilton College and a Masters in Urban and Environmental Policy from Tufts University.

Sometimes bells and whistles just add noise.

Sometimes bells and whistles just add noise.

John Cary
Turb-O-Web USA, Inc.
Dayton Beach, Florida
Office 888 887 2693
Email: john@turb-o-web.com
www.turb-o-web.com

For reader service, go to www.sbcmag.info/turb-o-web.htm

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

For reader service, go to www.sbcmag.info/turb-o-web.htm

Sometimes bells and whistles just add noise.

theHAINCOMPANY
SOLID-SIMPLE-SOLUTIONS
Framing Tables
Measuring Systems
Sub Component Nailers
Rafter Cutters
Vent Block Drills

Call us for more information and mention this ad to get a promotional discount.

www.thehaincompany.com
560-295-3068

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

For more information or to submit photos, contact Emily Patterson at 608/310-6747 or email epatterson@qualtim.com.

WTCA • 608/274-4849 • www.sbcindustry.com

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

In an ongoing effort to educate our members and their customers about the importance of temporary restraint and bracing during truss installation, WTCA is looking for high quality photographs of proper restraint and bracing in action on the jobsite. For a review of proper installation and temporary restraint/bracing techniques, take a look at chapter 2 of the BCSI booklet or the BCSI-B2 Summary Sheet. PDFs of both documents are available to view at www.sbcindustry.com/bcsi.php.
For the past seventeen years, Lakeside Trailer has been leading the way in the component trailer industry with innovative ideas to ensure your delivery operations remain efficient in today's competitive market. We know there is no such thing as a “small problem” when it comes to completing your contract with a builder. That is why Lakeside has perfected ways to reduce or eliminate your transportation concerns such as loading, off-loading and wide loads.
Estimating Labor with Averages Not Sufficient

by Todd Drummond

I was first exposed to the art of estimating labor costs for a truss plant in the early 1990s. The company I was with was installing new design software, and the labor estimation part of the program needed to be set up. I had no idea how to approach that task, so I observed a senior salesman who was doing the setup. He assigned various time values to elements such as board footage, linear footage and numerous other factors. He would then adjust the computed figure based on his feel for the job. He was satisfied with his results, because on “average” it worked out.

After some exposure to time standards in the industry, I began to question whether having an average labor figure is sufficient. Most truss shops use one of the following factors for estimating labor:

- Board Footage
- Linear Footage
- Material Cost
- Sales Dollars

These figures are easily derived from the truss design software, so they provide a relatively easy way to figure labor costs, which on average may work out. The problem is they usually bear little connection to the actual time, or man-hours, required for an individual job, and your labor costs are actually based on man-hours.

For instance, there could be a significant discrepancy in man-hours between a pole barn and a hip roof system, both of which use the same board footage. With linear footage the difference between a common truss and a customized profile with multiple pitch breaks skews the calculation enormously. Basing labor on material cost ignores cost fluctuations based on market conditions, and using sales dollars as a metric fails to consider discounts (lowering the price does not get trusses built faster).

We all try to make adjustments based on the complexity of each order, but can we say with honesty that we are consistent? In fact, it makes labor estimation more of an art than a science. But the panacea is that it works out on an average, so it is acceptable. What is even worse is we try to measure individual groups on a daily basis, and that does not relate well to an average.

The average really has nothing to do with the individual labor estimation of a single order, or even a single truss. Does it matter that you know how long it should take to do individual activities such as cutting and assembling? In a word YES!

**Time Standards & Labor Estimation**

Measuring the length of time it takes for the various cutting and building activities results in something called Time Standards. The use of time standards in all sorts of manufacturing has been around since Benjamin Franklin. More recently Toyota developed a system of time standards that have come to be called lean manufacturing, and was the basis for what also became known as the Japanese system. In the truss industry, it is often referred to as the Houlihan Method.

John Houlihan was an industrial engineer who applied time and motion studies to truss manufacturing. For more information on Houlihan, read “Houlihan: Recipe for Production Success” from the December 2004 issue of SBC. Proper time standards are not derived from knowing what has been done, but knowing what should be done to achieve lean manufacturing.

In my opinion, clear time standards meet each of the following conditions:

- They are measurable time elements (I use man-minutes, but Reasonable Expectancy or Scheduled Units—each representing 1/100th of an hour—also work).
- They can be measured consistently.
- They are broken down to the lowest common denominator so when added over the various groups, the total time remains true.

The time standards should have a reference to real world variables. For instance, the 100% standard could equal what is expected by an experienced individual (e.g., with three years of experience). You might expect an inexperienced individual to perform to 50 or 60 percent of the standard.

**So Why Are Time Standards So Important?**

Industrial engineers are taught the following statistics:

- Measuring the time to perform to 50 or 60 percent of the standard.
- The time standards should have a reference to real world variables.
- Expect an inexperienced individual to perform to 50 or 60 percent of the standard.

**For Most Manufacturing Shops:**

- **Gains Expected from Clear Time Standards**: 85% performance
- **Proper Time Standards and an Effective Incentive Program**: 120% performance

This is the secret of the Houlihan system. Industrial engineers understand the gains manufacturers would obtain in their facility if they employed proper time standards. On the average most manufacturers gain a 42 percent increase in productivity simply by employing time standards. (85%-60% divided by 60 = 41.7% gain)

I believe anyone can achieve these results by following five basic principles:

- Goal setting (setting time standards)
- Comparison of actual performance with goals
- Tracking results
- Reporting variances larger than acceptable limits

Studies by industrial engineering consultants Mitch Fein and Fred Myers published in Motion and Time Study for Lean Manufacturing 2001. Their studies have remained consistent in many studies and are considered statistically valid.

---

**Averages Not Sufficient**

<table>
<thead>
<tr>
<th>at a glance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most truss shops use one of four factors that work “on average” to estimate labor.</td>
</tr>
<tr>
<td>Labor estimates based on averages do not take into account complex jobs.</td>
</tr>
<tr>
<td>In the truss industry, the Houlihan Method is one example of lean manufacturing.</td>
</tr>
<tr>
<td>Employing proper time standards provides a solution to estimating labor.</td>
</tr>
</tbody>
</table>

---

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

1-877-SELLICK (735-5425)

E-mail: sales@sellickequipment.com
Estimating Labor...
Continued from page 39

• Taking corrective action to eliminate causes of poor performance
What manufacturer would not like a 42 percent gain in productivity? And this is only considering the application of time standards; accurate labor forecasting can bring additional benefits to job scheduling and costing.

There are some other things to note about establishing time standards. First, if you are not thoroughly versed in lean manufacturing principles you should get some help from somebody who is. A poorly implemented application of time standards is of little help. You should also be prepared to examine how you do things with a fresh eye, and avoid the pitfall of thinking you “already have that solved.”

In the end, the important thing is to have a better grasp on your labor costs than the “averages” generated by the traditional methods of measurement. With accurate time standards, you will know exactly what the labor cost is of each job that you do, and you will know just how much discounting a job in a tough market will actually cost you. SBC

Todd Drummond owns Todd Drummond Consulting, LLC. based in Sunapee, NH.
Automated Material Handling

by Jerry Koskovich, PE.

I don’t know who said it first, or where I heard it, but it bears repeating. The main business of truss manufacturers isn’t building trusses…it’s material handling! I realize this view is an oversimplification, but just maybe it’s not too far from the truth.

In past articles I’ve attempted to acquaint the readers with the virtues of automation. We’ve talked about the various computer-controlled saws that were really the foundation of the automation revolution that the industry has been evolving through. In saying so, I’ve accepted that if it hadn’t been for the development of truss design software, there probably wouldn’t have been a need for automated saws.

However, automated saws, computer-controlled jigging systems with pucks, and laser projection systems have all simplified—really, made possible—production efficiencies never dreamed possible only twenty years ago. If these systems are properly used and maintained, there’s probably little that can be done in the immediate future to make these respective phases of the truss production operation much better. But what about the functions that go on in between cutting, jigging and pressing?

For the most part, it’s called MATERIAL HANDLING! And for the most part, in the average truss plant it hasn’t changed much in the twenty plus years since the first automated saw arrived on the scene. In truth, it hasn’t changed much since the early days of the truss industry!

Problems/Obstacles/Setbacks in Material Handling

I remember in 1989 when we had just installed our fifth or sixth automated component saw at a large wall and truss plant in the East. The saw was positioned immediately in front of a large opening in the outside wall of the building. There was no live deck or any other type of lumber conveyance with which to advance material toward the saw. The material flow went something like this:

1. The sawyer would go to the alley, flag down a forklift operator, and tell him what he needed.
2. The forklift operator would find and deliver a unit of the required grade, size, length and species of lumber.
3. He would position the unit immediately in front of the saw, on saw horses.
4. The sawyer would process the required number of parts.
5. Upon completion, he would retire to the alley, flag down the forklift operator, who would retrieve what remained of the unit, and the process would start all over.

As you might expect, the time between flagging down the forklift operator, and either supplying or retrieving the lumber was tantamount to watching grass grow or paint dry! Amazingly, that “material handling system” continued for years after the installation of the automated saw.

On another occasion, our customer complained of not getting the promised production out of this expensive piece of equipment. Since the plant was located only a few hundred miles to the south, I decided to find out for myself why my pride and joy wasn’t performing as advertised. I hadn’t even gotten up to the saw when I spotted the problem.

In a moment of inspiration, someone at the plant had decided to weld some inclined extensions on the exiting material conveyors of the saw, capable of holding perhaps six 2x4s. The ends of these extensions had upward vertical fingers or lumber stops so the finished components wouldn’t fall on the floor, thus sparing the worker the need to bend over and retrieve them for placing the components on a cart.

There was only one problem—the catcher was also the sawyer. He would load six pieces on the saw’s in-feed deck, then retreat to the back of the machine and pull the finished parts off of the conveyor extensions and stack them neatly on a cart. True, it was a one-man operation, but needless to say, at a significant cost in production!

I’ve always compared the automated saw to a cash register…if you don’t hear it ringing, you’re probably not making any money! The same could be said of most any of the automated systems referred to above.

The upside of all of the aforementioned incidents, and others like them, is that they inspired us, and I assume other equipment manufacturers, to create the production reports that all of our machines produce. Comprehensive production reports help both plant managers and equipment manufacturers monitor the machine’s performance. If production isn’t meeting expectations, the reports often help zero in on the problem. Many times—probably most—it will be material handling.

Why Automate?

Multi-blade component saws came about at a time when truss configurations seldom varied from truss to truss or even from roof to roof. Saws could set up and cut dozens, sometimes hundreds, of identical parts every setup. Now the average is around four pieces per setup. But wait! This average is a very misleading number!

In truth, only about nine percent of the time will exactly four identical parts be cut per setup. Most astonishing, multiples of four are even less likely. Statistics show that a single piece is cut between thirty to forty percent of the time!

Continued on page 44
Automated Material Handling
Continued from page 43

These numbers are not guesstimates, but are the result of studies done evaluating nearly one hundred thousand setups and over four hundred thousand cut pieces. Two truss plants (one in the Midwest and the other in the East) created the database. Both plants had automated component saws as well as linear feed saws driven by sophisticated optimizing programs.

My point is, when considering automating anything, have a good understanding of what is really happening, what is required, and if the intended machine fulfills the need.

The need to improve on the various aspects of material handling has long been recognized. Over a decade ago we began discussing the possibility of automated material handling systems with prospective customers.

One of the time-honored traditions that needed to be changed if an automated system was to be feasible was minimizing the variety of grades, species and lengths of material intended to be processed by the manufacturer. The reduced number of varieties stocked would accommodate all jobs, but of course would mean that some jobs would be built with materials that exceeded called-for specifications. The additional costs incurred would be more than offset by the efficiencies realized in carrying less varieties. And, not unimportant, better grade stocks have fewer defects and thus are more compatible with automated cutting and processing.

Because getting lumber to the saw is generally the most labor-intensive, time-consuming, and error-prone part of material handling—and because there’s a high potential for the lumber to be “not on time” rather than “just in time”—we chose to work on the in-feed side of the saw first. If the material isn’t flowing to the saw continuously, your cash register isn’t ringing.

Go with the Flow

Today there are a number of in-feed material handling systems available for linear fed saws, with varying degrees of sophistication and cost. The more exotic systems, while more costly, will often assure that the saw, not the operator, controls the production of the machine. Since the material feeding is done automatically, the saw is never waiting for lumber to process. Such systems also make possible a one-man operation.

The more sophisticated automated feed systems will typically pay for themselves in less than two years. If you are running more than one shift, that payback time will likely slim down to a year or less.

Prior to automated saws, automated stackers for the back side of component saws were created. While in some situations currently existing automated stackers may be appropriate, other options recently being made available may be better suited to the onesie, twosie setups of today. Or, just maybe, what you are already doing may still be the best option.

About ten years ago, we began looking into the possibilities of using a robotic arm in the truss industry. Robotic arms are typically used to do repeatable operations in very controlled environments. We’ve all seen them at work on the History Channel, typically in the automotive industry. In those instances, the key to success is that the car bodies are identical and precisely located while the robotic welder does exactly the same routine, with the same quality and precision, on every car body.

Key Product Benefits
- Replaces fire retardant decking
- Non-toxic, non-carcinogenic and inhibits black mold growth
- Eliminates sprinkler systems in attics
- Eliminates FRT lumber in your plant
- No-Burn® products cost less than FRT plywood & lumber
- 7-year builders mold warranty

Increase profits with existing customers!
While the technology of NO-BURN® is complex, the concept is simple. NO-BURN® eliminates the fuel needed for a fire to burn. These fire retardants and reactants are becoming very popular within the structural building component industry. Now is the time to get involved and start increasing your profits.

Authorized No-Burn Inc. representative to the structural building components industry
Become a dealer today! Call 1-800-989-8577 • www.noburn.com

Treated with NO-BURN® Wood Gard
Treated with NO-BURN® Plus Mih FRT Lumber

Key Product Benefits
- Replaces fire retardant decking
- Non-toxic, non-carcinogenic and inhibits black mold growth
- Eliminates sprinkler systems in attics
- Eliminates FRT lumber in your plant
- No-Burn® products cost less than FRT plywood & lumber
- 7-year builders mold warranty

I ncrease profits with existing customers!
While the technology of NO-BURN® is complex, the concept is simple. NO-BURN® eliminates the fuel needed for a fire to burn. These fire retardants and reactants are becoming very popular within the structural building component industry. Now is the time to get involved and start increasing your profits.

Authorized No-Burn Inc. representative to the structural building components industry
Become a dealer today! Call 1-800-989-8577 • www.noburn.com

Treated with NO-BURN® Wood Gard
Treated with NO-BURN® Plus Mih FRT Lumber

Authorized No-Burn Inc. representative to the structural building components industry
Become a dealer today! Call 1-800-989-8577 • www.noburn.com

For reader service, go to www.sbcmag.info/no-burn.htm
Automated Material Handling
Continued from page 44
The challenge for the truss industry is to adapt robotic technology developed from other industries, like automobile manufacturing. Given the nature of wood, as typically produced and used in this industry, you can begin to see the problems. Crook, bow, wane, precise cutting and exact positioning are just a few of the conditions that would need to be addressed in order to utilize robots.

With that in mind, we felt the one area robots might best be suited was behind a component saw. Some of you may remember seeing one at a past BCMC show positioned behind an Omni simulating the stacking of completed parts coming from the saw. After about six months of working with a well respected robotic supplier, we abandoned the project for later study. There were a host of challenges.

With the advent of linear-feed automated saws and their ability to sequentially process the components for a single truss efficiently, the idea of utilizing a conveyor to move the finished parts directly from the saw to the building station became more practical. However, as the number of build stations or press lines is increased, the challenges become somewhat greater, but not unattainable.

The challenge once again, when compared to other industries, is the variation from component to component. Normally when we see conveyors used in high production applications, again on the History Channel, they are moving large volumes of beer bottles or some other uniform product at high rates of speed from one process to another. Truss parts just aren’t uniform!

Component Variables
Other wood industries and some companies in this industry are already successfully utilizing conveyors to move less-than-uniform parts. The challenges come in the extremes—moving parts ranging in length from a few inches to twenty feet. Having moved them, the next challenge is to have them removed from the conveyor at the correct build stations so they’re available and, ideally, organized for the workers.

Ideally, a straight line approach from the saw to the build tables will be preferred, with the conveyor running parallel to the press table.

Linear-feed saws appear to present the best opportunity for utilizing automated conveyors directly from the out-feed side of the saw with no operator interaction. At various times over the years there have been some attempts at doing so behind component saws, but to the best of my knowledge have not met much success. We, like a few others, have given some serious thought to that process, but have thus far not come up with the silver bullet. Conveyors are another story and will become more prevalent under the right conditions and applications.

If you plan to automate your material handling, be prepared to spend some time thinking about the challenges mentioned above. Unless you’re designing the system for a new facility, you will likely be challenged with the positioning of saws, conveyors, and pressing stations, so as to minimize directional deviations in material flow. Ideally, a straight line approach from the saw to the build tables will be preferred, with the conveyor running parallel to the press table.

In some instances you may be able to feed two parallel tables with the same conveyor and saw system. The challenge then is to assure that the saw has the capacity to adequately feed the number of workstations you plan to service.

The Reality of Working Smarter, Not Harder is Here
Increasing production and quality on your wall panel line isn’t a matter of adding labor; it’s adding the right automation and using your valuable labor dollars elsewhere.

Viking’s Wall Panel Assembly equipment, whether you choose our manual or our powered conveyors, offers walk through design, Panel-Pro event driven software, installation and training, unparalleled service and support, and our 30-year commitment to quality and customer satisfaction. Please contact us today to find out how we can help you work smarter, not harder, to achieve your business goals.
Automated Material Handling
Continued from page 46
Finally, I’d be less than honest if I didn’t bring up the dreaded “down time” that inevitably affects all machines, automated and otherwise. If the material handling system is tightly packed into your available floor space, how do you get finished parts to the workstations if the conveyor isn’t working, or worse yet, if the saw is down for maintenance or is having a problem? “Just in time” can quickly turn to “never in time!”

As I’ve said so many times in the past, if you intend to reap the advantages of a totally automated system (which are many), make sure you have the technical support to keep it all running. Preventive maintenance is often the key. Remember, you can buy a 747 from Boeing, but you’re not in the airline business until you have the entire infrastructure.

Give it some thought. While your particular plant or application may not justify a totally automated system, it’s likely that parts of the total system could be utilized to great advantage. Eighty percent of a good thing is better than one hundred percent of nothing! SB C

Jerry Koskovich is President of The Koskovich Company in Rochester, M.N.

MAKE YOUR WOOD WASTE WORK FOR YOU!

It just makes sense to use your wood scraps for fuel. Every BTU generated from wood waste eliminates the need to pay for a BTU from other costly fuels.

BCS WOOD FIRED SHOP HEATERS:
- Cost-Effective Heating
- All-Steel Construction
- Rugged and Dependable
- Environmentally-Friendly
- Twenty-Year Proven Design
- Easy to Use and Maintain

Biomass Combustion Systems, Inc.
Making your wood waste work for you. www.biomasscombustion.com

For information call 508-798-5970 or email info@biomasscombustion.com

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

Introducing a new joist installation tool: the foot.

Now you can install I-joists with a top flange hanger that doesn’t require joist nails. With the new ITS, just slip the joist into the hanger, step on it to snap it into place, and move on. And since it’s designed for the loads you need, you don’t have to sacrifice performance for installation speed. The ITS from Simpson Strong-Tie® helps your crews work faster. Just tell them to step on it.

Call 1.800.999.5099 to speak with a Simpson representative or visit www.strongtie.com.

SIMPSON StrongTie®
Sealing Truss Placement Diagrams:
A Follow Up to “Standing Up & Being Heard”

by Ryan J. Dexter, PE.

The April 2007 issue of SBC included an article entitled “Standing Up & Being Heard,” which profiled a WTCA member professional engineer’s experience in arguing against a proposed Division of State Architects amendment to the new California Building Code requiring a Truss Placement Diagram (TPD) to be sealed by a Truss Designer.

We received feedback on this article and decided that a follow-up article was necessary. Here are excerpts of a note from Keith Fuller who is an International Code Council (ICC) Master Code Professional in Montgomery County, PA (a suburb of Philadelphia):

...An engineer should seal his or her designs so those in the field know who prepared the drawings, and that the placement drawings were consistent with the individual truss designs. A good truss design is no good if the truss is not put where it was designed to be installed. An engineer that won’t seal their own drawings should find other work. Be responsible for what you do...

...Installers and inspectors in the field need this information, and they also need to know who’s responsible for the design... As a building official, I want it in writing; I don’t want you all pointing fingers at each other when the roof system fails under snow load. You’ll have to be responsible for what you do...

...As one who reviews plans and inspects in Pennsylvania, if the plans aren’t sealed, they won’t be accepted, period. If trusses are improperly installed by virtue of their lack of proper bracing, improper placement, or damage, that is also unacceptable... Do what’s right to protect the average person who will be in the building—keep them safe.

Without question, our industry overall desires the same things as Mr. Fuller—to keep buildings safe. The issue here is typical scope of responsibilities. We completely agree that an engineer should seal his work; that’s basic engineering law. What is needed up front is an understanding of the particular situation in California, Pennsylvania, or anywhere else, what a TPD is and why it is prepared. The key is to have everyone on the same page before construction begins so there is no “pointing fingers” after the fact. Let’s dissect the scenario to achieve this common understanding. In this article, we borrow from California and Pennsylvania state language specific to California Division of the State Architect (DSA) projects. The DSA is charged with providing design and construction oversight for K-12 schools and community colleges in California. The “victory” described in the article was to remove the DSA specific requirement for a Truss Placement Diagram (TPD) to bear the seal and signature of the Truss Designer. The argument used against this proposed requirement by Bryan Hill, P.E., from WTCA member company A.C. Houston Lumber Co., was that the structural framing plans prepared and sealed by the Building Designer (for DSA projects this would be the Registered Design Profession (RDP)) are sufficient and that the trusses are designed to match the requirements of these plans. If deviations are required they must first be approved, in writing, by the Building Designer (i.e., RDP) per the building code as follows (2006 IBC).

106.3.4 Design professional in responsible charge.
106.3.4.1 General. When it is required that documents be prepared by a registered design professional, the building official shall be authorized to require the owner to engage and designate on the building permit application a registered design professional who shall act as the registered design professional in responsible charge. If the circumstances require, the owner shall designate a substitute registered design professional in responsible charge who shall perform the duties required of the original registered design professional in responsible charge. The building official shall be notified in writing by the owner if the registered design professional in responsible charge is changed or is unable to continue to perform the duties.

The registered design professional in responsible charge shall be responsible for reviewing and coordinating submittal documents prepared by others, including phased and deferred submittal items, for compatibility with the design of the building.

For these projects, sealed Truss Placement Diagrams in addition to sealed framing plans are redundant, potentially confusing, and a waste of time and resources. The 2006 International Building Code (IBC) has furthermore codified that a TPD should not be sealed unless it is prepared under the direct supervision of a Registered Design Professional:

2303.4.3 Truss Placement Diagram. A diagram supplied by the truss manufacturer that identifies the proposed location for each individually designated truss and references the corresponding Truss Design Drawing. The Truss Placement Diagram shall be provided as part of the Truss Submittal Package, and with the shipment of trusses delivered to the job site. Truss Placement Diagrams shall not be required to bear the seal or signature of the Truss Designer.

Exception: When the Truss Placement Diagram is prepared under the direct supervision of a registered design professional, it is required to be signed and sealed.

The TPD is not to be viewed as an engineering document except as stated above; rather it is provided to assist the installer in properly locating the trusses within the structure.

All the necessary engineering truss and analysis is found on the Truss Design Drawings (TDD). If a TPD is provided, it is recommended that the project’s Building Designer review and approve the TPD to ensure that the assumed load paths match up with the building design concepts that they have employed.

ANSI/TPI 1 Chapter 2, which is adopted by reference in IBC 2006 (102.4, 2303.4 and Chapter 35 “Reference Standards”), defines Building Designer as follows:

2.3.4 Building Designer: The Owner of the Building or the individual or organization (including either an Architect or Engineer or the Contractor) that contracts with the Owner for the design of the Building Structural System and/or who produces the Structural Design Documents.

The IBC defines RDP as follows:

REGISTERED DESIGN PROFESSIONAL. An individual who is registered or licensed to practice their respective design profession as defined by the statutory requirements of the professional registration laws of the state or jurisdiction in which the project is to be constructed.

If a Truss Designer were to seal a TPD, it has been strongly suggested by the legal profession in our country that they could incomparably be held responsible for ensuring the proper flow of loads through the truss to the bearing and support structure below the truss and into the foundation. Hence undertaking a building re-design, which is quite redundant. Truss Designers are counseled to only undertake Building Designer responsibilities under a special set of circumstances. Without question, our industry overall desires the same things as Mr. Fuller—to keep buildings safe. The issue here is typical scope of responsibilities. We completely agree that an engineer should seal his work; that’s basic engineering law.

What is needed up front is an understanding of the particular situation in California, Pennsylvania, or anywhere else, what a TPD is and why it is prepared. The key is to have everyone on the same page before construction begins so there is no “pointing fingers” after the fact. Let’s dissect the scenario to achieve this common understanding. In this article, we borrow from California and Pennsylvania state language specific to California Division of the State Architect (DSA) projects. The DSA is charged with providing design and construction oversight for K-12 schools and community colleges in California. The “victory” described in the article was to remove the DSA specific requirement for a Truss Placement Diagram (TPD) to bear the seal and signature of the Truss Designer. The argument used against this proposed requirement by Bryan Hill, P.E., from WTCA member company A.C. Houston Lumber Co., was that the structural framing plans prepared and sealed by the Building Designer (for DSA projects this would be the Registered Design Profession (RDP)) are sufficient and that the trusses are designed to match the requirements of these plans. If deviations are required they must first be approved, in writing, by the Building Designer (i.e., RDP) per the building code as follows (2006 IBC).

106.3.4 Design professional in responsible charge.
106.3.4.1 General. When it is required that documents be prepared by a registered design professional, the building official shall be authorized to require the owner to engage and designate on the building permit application a registered design professional who shall act as the registered design professional in responsible charge. If the circumstances require, the owner shall designate a substitute registered design professional in responsible charge who shall perform the duties required of the original registered design professional in responsible charge. The building official shall be notified in writing by the owner if the registered design professional in responsible charge is changed or is unable to continue to perform the duties.

The registered design professional in responsible charge shall be responsible for reviewing and coordinating submittal documents prepared by others, including phased and deferred submittal items, for compatibility with the design of the building.

For these projects, sealed Truss Placement Diagrams in addition to sealed framing plans are redundant, potentially confusing, and a waste of time and resources. The 2006 International Building Code (IBC) has furthermore codified that a TPD should not be sealed unless it is prepared under the direct supervision of a Registered Design Professional:

2303.4.3 Truss Placement Diagram. A diagram supplied by the truss manufacturer that identifies the proposed location for each individually designated truss and references the corresponding Truss Design Drawing. The Truss Placement Diagram shall be provided as part of the Truss Submittal Package, and with the shipment of trusses delivered to the job site. Truss Placement Diagrams shall not be required to bear the seal or signature of the Truss Designer.

Exception: When the Truss Placement Diagram is prepared under the direct supervision of a registered design professional, it is required to be signed and sealed.

The TPD is not to be viewed as an engineering document except as stated above; rather it is provided to assist the installer in properly locating the trusses within the structure.

All the necessary engineering truss and analysis is found on the Truss Design Drawings (TDD). If a TPD is provided, it is recommended that the project’s Building Designer review and approve the TPD to ensure that the assumed load paths match up with the building design concepts that they have employed.

ANSI/TPI 1 Chapter 2, which is adopted by reference in IBC 2006 (102.4, 2303.4 and Chapter 35 “Reference Standards”), defines Building Designer as follows:

2.3.4 Building Designer: The Owner of the Building or the individual or organization (including either an Architect or Engineer or the Contractor) that contracts with the Owner for the design of the Building Structural System and/or who produces the Structural Design Documents.

The IBC defines RDP as follows:

REGISTERED DESIGN PROFESSIONAL. An individual who is registered or licensed to practice their respective design profession as defined by the statutory requirements of the professional registration laws of the state or jurisdiction in which the project is to be constructed.

If a Truss Designer were to seal a TPD, it has been strongly suggested by the legal profession in our country that they could incomparably be held responsible for ensuring the proper flow of loads through the truss to the bearing and support structure below the truss and into the foundation. Hence undertaking a building re-design, which is quite redundant.

Truss Designers are counseled to only undertake Building Designer responsibilities under a special set of circumstances.
Sealing Truss Placement Diagrams

Continued from page 51

Registration Law in PA Act 367. According to Section 4(g)(6):

Section 4. General Powers of Board. ...(g) Suspension and Revocation of Licenses; Registrations and Certificates; Reinstatements. ...For the purposes of this subsection, the code of ethics is as follows: It shall be considered unprofessional and inconsistent with honorable and dignified bearing for any professional engineer: ...(6) To attempt to obtain or render technical services or assistance without fair and just compensation commensurate with the services rendered.

Therefore, if the Truss Designer was hired to design the single truss components and compensated as such, it would be unlawful for him or her under a reasonable interpretation of Pennsylvania law to provide additional system engineering services within the state for free.

In most jurisdictions and definitely with DSJ projects, the Building Designer of a non-residential structure must be a RDP, as defined above, pursuant to the IBC Section 106.1. 106.1 Submittal documents. ...The construction documents shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed. ...

The construction documents should in turn clearly define the scope of work proposed by the Building Designer: 106.1.1 Information on construction documents. ...(a) Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations. ...

In preparing the construction documents, the Building Designer must provide the Truss Designer with the information necessary to properly design the trusses for the building. Assuming the requisite information is provided within the construction documents issued by the Building Designer, the Truss Designer’s sole responsibility is to properly design the trusses according to this information. Once designed, a truss is then depicted on a TDD. The Truss Designer is therefore specifically responsible for the single truss design depicted on each TDD.

Again assuming the requisite information is provided within the construction documents, a TPD is prepared by component manufacturer personnel who are not typically engineers. The individuals preparing a TPD are trained individuals who work as truss technicians, truss take-off specialists or truss salespeople. As a TPD is typically prepared outside the engineer’s scope of work, it may not be reviewed or even seen by the Engineer responsible for preparing the Truss Design Drawings. A TPD is generally not prepared within the typical duties of an engineer and is therefore not typically prepared under the engineer’s direct supervision.

A TPD is intended to assist customers, erectors and code enforcement officials in positioning or locating the trusses and related structural components supplied by the component manufacturer. Its function is to serve as a detailed installation guide. The TPD indicates the component manufacturer’s assumed location for each truss or related component that has been designed and manufactured. A TPD would best be described as a “shop drawing.”

"Shop drawings," as defined by Federal Acquisition Regulation (FAR), are typically drawings submitted by the construction contractor or a subcontractor at the different phases or stages of construction or required under a construction contract; scheduling requirements, showing in detail either or both of the following: 1. The proposed fabrication and assembly of structural elements. 2. The installation (i.e., form, fit, and attachment details) of materials or equipment.

FAR is the primary regulation for use by all Federal Executive Agencies in their acquisition of supplies and services with appropriated funds.

Similar to a shop drawing, a TPD is intended as an installation detail and is covered by engineering exemptions in many states. A gain using Mr. Fuller’s location as an example, the Commonwealth of Pennsylvania specifically exempts shop drawings from requiring an engineer’s seal in PA Act 367:

Section 5. Exemption from Licensure and Registration. Except as specifically provided in this section, this act shall not be construed to require licensure and registration in the following cases: ... The preparation of shop drawings or the performance of construction management services by persons customarily engaged in construction work.

PA Act 367 also provides a definition for the Practice of Engineering:

Section 2. Definitions. As used in this act -(a) [1] “Practice of Engineering” shall mean the application of the mathematical and physical sciences for the design of public or private buildings, structures, machines, equipment, processes, works or engineering systems, and the consultation, investigation, evaluation, engineering surveys, construction management, planning and inspection in connection therewith, the performance of the foregoing acts and services being prohibited to persons who are not licensed under this act as professional engineers unless exempt under other provisions of this act. The preparation of a TPD does not require the need for education in mathematical or physical sciences.

Finally, because a TPD is generally neither created by nor created under the immediate personal supervision of a licensed design professional, it cannot be sealed. To require that it be sealed violates all state engineering laws. For example, Chapter 37 of The Pennsylvania Code provides rules that govern the proper use of an engineer’s seal: § 37.59. Use of seal. The following rules govern the proper use of a register’s seal: (1) A registrant may use his seal and signature only when the work being sealed and signed was prepared by the register or under the register’s complete direction and control. ...

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

The Engineer’s Code of Ethics as outlined in Section 4 of PA Act 367 states:

Section 4. General Powers of Board. ...(g) Suspension and Revocation of Licenses; Registrations and Certificates; Reinstatements. ...It shall be considered unprofessional and inconsistent with honorable and dignified bearing for any professional engineer: ...(9) To use or permit the use of his professional seal on work over which he was not in responsible charge.

In conclusion, Mr. Fuller has brought up very good points and WITCA is in agreement with the issues he has raised. The code is clear that the Building Designer is the Registered Design Professional who has responsibility for the overall building design in accordance with the state’s statutes and regulations. The Building Designer is also the person who reviews and coordinates all the Construction Documents prepared by others (including the Truss Design Drawings and Truss Placement Diagrams) to make sure they do not conflict with the scope of the project, the specifics of which are listed in IBC Section 106.3.4.1:

106.3.4.1 General. ...The registered design professional in responsible charge shall be responsible for reviewing and coordinating submittal documents prepared by others, including phased and deferred submittal items, for compatibility with the design of the building. The Truss Placement Diagram is an illustration identifying the assumed location for each truss based on the Truss Manufacturer’s interpretation of the Construction Documents. The TPD is not an engineering document and should never be considered a replacement for a structural framing plan prepared by the Building Designer. If a seal is required on a TPD, it should be evaluated by the Building Designer and signed and sealed as reviewed and approved in conformance with the overall building design.

When you buy from an independent lumber company you get more than quality lumber. You get quality people. In fact, you get an entire company of professionals that know exactly how important you and your business are. If you are people selling to the foot talk. People know you to know the trade. At Southeastern Lumber Merchants Association (SLSA) our representatives, our 5,500 plus member of our independent, hardwood and softwood lumber is used for a variety of applications. We use it to build lasting relationships.

For reader service, go to www.sbcmag.info/slma.htm
See why it is taking the industry by storm.

More than 75 Ram Easy Rider systems have been installed in just the last 18 months. One truss plant alone has 16 Easy Riders in everyday operation. Clearly, it is the most successful truss fabrication system ever introduced. Why? The answer is simple. Because you can build more trusses with less labor. Its unique distribution of workload keeps the manufacturing process smooth, efficient, and highly productive.

The AutoSet C4 is an exciting new addition to the complete line of available jigging options. The C4 is an automated jigging system with an innovative drive system that keeps table slots clear for easier maintenance.

See for yourself why the RAM Easy Rider is the component industry’s leading trackless truss fabrication system. Call your Alpine representative to learn what the RAM Easy Rider can do for your production and ask for a copy of the video showing the Easy Rider in action.
A new tool to get your fleet on the road safely and with minimal risk.

Your Company’s Responsibility

Prior to the point where the truck pulls out of your facility, your company has complete responsibility for each truck and trailer, including maintenance, insurance and registration. You must acquire any necessary permits if a truck is going to haul a load that exceeds the maximum allowed size restrictions. You are also responsible for providing safety signage, flags and lights for the truck, trailer and load, as well as escort vehicles when a permit requires them.

You are also responsible for making sure your driver has a Commercial Drivers License (CDL). Drivers have been required to have a CDL in order to drive a CMV since April 1, 1992. The Federal Highway Administration (FHWA) has developed and issued standards for testing and licensing CMV drivers. Among other things, the standards require individual states to issue CDLs to CMV drivers only after the driver passes knowledge and skills tests administered by the state related to the type of vehicle to be operated. Tickets and other infractions while operating a CMV can impact a driver’s eligibility to hold a CDL. You need to keep track of a driver’s record to make sure they still hold a valid CDL before you employ them to haul your products.

All of these responsibilities require a plan of action and, more often than not, a lot of paperwork. The TRUCK program will train individuals within your company to handle the many responsibilities you assume when you own and operate your own fleet of trucks (and, to a lesser extent, if you contract out to a third-party common carrier). TRUCK will also include training on your clerical responsibilities, including insurance forms, permit applications, driver logs, vehicle maintenance records and vehicle registration.

Your Driver’s Responsibility

Then there is the issue of driver responsibility. Once the truck leaves your manufacturing facility, the driver assumes full and complete responsibility of the vehicle and the cargo it is transporting.

Not to sound like an after school special, but knowledge is power—your drivers need to know this! If they speed, they get the ticket. If the load is illegal or the permit they have is deemed invalid, they get the ticket. If they get in an accident, you guessed it, they get the ticket (assuming one is issued).

Drivers should inspect their vehicle and trailer, all tie downs, anchor points and other load securement methods, and the load itself before departure. The driver is also required to ensure cargo is properly distributed, does not obscure the forward or left and right view from the driver’s seat, or prevent access to emergency accessories (flares, cones, etc.) or a viable exit from the cab of the truck.

L

et’s start with an obvious statement: as a component manufacturer, you spend a considerable amount of time designing and constructing structural building components. Here’s another one: you make a considerable investment in your raw materials and have significant costs associated with owning and running your production facility. One more: every component you spend the time and effort to build you hand over to a singular employee, a truck driver, who has 100 percent control and responsibility for ensuring your product gets to your customer safely and intact.

Let me put that last statement a slightly different way, for emphasis: your company’s ultimate success or failure is extremely dependent upon the skills and performance of your truck driver as they transport your products out the front gate of your facility and deliver them to your customer’s job site. Gives you a moment of pause, doesn’t it?

Chances are good you’re always looking for ways to reduce your risk, streamline your operations, enhance your reputation, expand market share and, ultimately, improve your business. Then consider, for a moment, your drivers. How did you evaluate their skills prior to hiring them? Were they properly trained once they were hired? Are they fully aware of their responsibilities before, during and after they transport your products to the job site? Are you fully aware of your responsibilities?

In a 2004 industry survey, over 85 percent of component manufacturer respondents indicated they owned or leased their own fleet of commercial motor vehicles (CMV). Of those respondents, only a third (35 percent) indicated they had developed what they considered to be a formal driver training program. Even beyond educating and training your drivers, it’s important for you to understand all the risk and responsibility your company assumes in transporting its products.

It is this liability that is prompting more and more insurance carriers to promote or require a comprehensive driver training program. The TRUCK program will also include training on your clerical responsibilities, including insurance forms, permit applications, driver logs, vehicle maintenance records and vehicle registration.

For reader service, go to www.sbcmag.info/registration/licensing/cdl/cdl.htm.

1 For more information on this program, visit http://www.fmcsa.dot.gov/registration/licensing/cdl/cdl.htm.
Transportation Manager

“The truck stops here” is a simple statement about assuming responsibility. In this case, through the WTCA TRUCK Program, your company chooses an individual who then claims, “the truck stops here.” It is important not only for you, but for the drivers you hire to be clear on your commitment to their training and ultimate success in their job. Instituting a formal driver training program starts with choosing the right person to assume responsibility for it.

The TRUCK program will help the transportation manager to assess your company’s current risk given the structure and scope of your fleet. It will also help them, if necessary, evaluate and choose proper insurance coverage and provide guidance on maintaining an effective vehicle registration system.

TRUCK will also help you and your transportation manager make one of your most important decisions: choosing who you hire to drive your trucks. It will include best practices on developing expectations for your drivers with regard to their driving performance (and history), drug and alcohol use, proper work attire, and attitude (particularly on the jobsite). With these expectations in place, it becomes easier to evaluate and contract potential hires.

As discussed earlier, TRUCK will also include training and guidance on creating a comprehensive vehicle maintenance and inspection schedule. Keeping your trucks road worthy, particularly through preventative maintenance to ensure small part failures don’t lead to large mechanical problems, is one of the most effective things your company can do to lower the overall cost of transporting your product and reduce delays.

Driver

Your drivers are the face of your company on the road. Their actions and skills determine whether your product makes it to your customer at their satisfaction. It only makes sense to ensure they are well trained to assume the heavy responsibilities they accept every time they pull their truck out of your facility. The TRUCK program will provide that base industry-specific training.

If they don’t already have a CDL, it will guide them on how to apply for one, prepare for the test, and maintain that licensure during their career. The program will also cover the basics of driving a CMV, as well as some of the particular issues your drivers may face on the road (for example, making a wide right turn with an uncentered load when the peak of the trusses hang off the right side of the vehicle).

Law enforcement can spend a considerable amount of time inspecting your CMVs either at weigh stations or on the side of the road if they pull it over. In most instances, they will conduct a 21-point inspection of the truck and trailer. TRUCK will outline this inspection process and train drivers how to conduct this inspection on their own before they head out on the road. This “pre-trip” inspection will help minimize the chances law enforcement will find something wrong during their inspection and thus avoid citations. Law enforcement will also inspect the cargo, its positioning and its securement. If they find anything wrong during their inspection, and it can’t be fixed immediately, they can place the vehicle “out-of-service,” until a different vehicle is brought to transport the cargo. This can mean costly delays and affect your company’s reputation.

Finally, the TRUCK program will train drivers on how to work with the specific products manufactured by the industry. Your products offer some unique challenges, particularly during the loading and offloading process, that a driver should be properly trained to handle. This program will offer best practices on loading and positioning of cargo, safe and thorough application of load securement devices (such as nylon strap tie-downs), and selecting or creating a safe and adequate location to unload components at the jobsite.

Record Keeper

Few other aspects of your business will require as much paper work as your transportation fleet. From insurance and vehicle registration to oversize loaded permits and driver logs, there are a lot of forms and files to collect and maintain in order to comply with local, state and federal regulations. Out of necessity, all of this record keeping may be done by the same person you appoint as your certified transportation manager. However, if you want a member of your clerical staff to take responsibility for your transportation paperwork, the TRUCK program will include specific training on record keeping.

Risk Management

It is important to point out that effective driver training and transportation management has as much to do with addressing risk as it does legal compliance. First, the customer is paying for a timely and damage-free delivery. Second, damaged cargo from driver error can result in claims against your company, hurt your reputation and impact your profitability. Third, insufficiently secured cargo, improperly maintained equipment, or poor driving can lead to an accident resulting in injury or loss of property, as well as citations from law enforcement and potential litigation. For example, improperly securing truss loads has proven to result in insurance claims. Specifically, data obtained from

CNA Insurance, for the years CMA maintained WTCA’s truss industry insurance program, showed that for CNA truss manufacturer insureds, 36 percent of the claims were vehicle-related. Of those claims, 138 had to do with clearance issues. These losses occurred on trucks delivering over-hanging trusses to jobsites that struck something. The next most frequent number of losses, 93, occurred when objects fell off vehicles and struck something.

The TRUCK program will offer best practices on what your company should do in the event of an accident. If an accident occurs, it will require the action by all three of these individuals. The program will train each of them on what their responsibilities are and what they should do to help minimize company liability.

Conclusion

Product transport is one of the greatest sources of risk and liability to a component manufacturer. It also presents a significant injury risk to your employers and others, from loading and unloading of product, to travel on public roads. As a consequence, WTCA’s Management Committee is creating the TRUCK program to help you appoint and train an effective transportation manager to take responsibility for maintaining your transportation fleet. The TRUCK program will also offer industry-specific training for your drivers and provide guidance on proper record keeping.
Cutting-Edge Software Solutions for all Component Manufacturers

Visit us at the ITW Building Components Group booth at the BCMC in Columbus, OH to see demonstrations of all our new industry-leading features.

All the great dependable features plus new innovative solutions that provide flexibility, speed and more!

Enhanced Job Properties for projects with multiple jobs—allows better control over the entire project!
- Assign different work order numbers for different parts of the job
- Different user-defined configurations (sets of default files to apply to sets of trusses)
- Drag-and-drop trusses between configurations
- All programs share the enhanced Job Properties Utility.

WallBatch™ provides total flexibility for optimization, cutting, and distribution of wall parts for greater efficiency in wall panel production. WallBatch optimizes your stock length usage—there's no more guesswork with Ordered Pick Lists! In conjunction with our popular PlantNet paperless production system, with a single mouse click you can:
- Send plate cutting to one saw for marking
- Send component cutting to another saw for optimization of pieces on fewer boards
- Send miscellaneous piece cutting to a manual pull saw

User-defined loads (UDL)—allows users to enter vertical loads in IntelliBuild for various situations such as: Beams or runners for a platform; Vent hoods or HVAC in the attic; Sprinkler systems; Structural fascia; and other special loading situations. Advantages include:
- Specify multiple loads at once for consideration with wind uplifts, unbalanced snow loads, etc.; these loads are then considered in the same manner as CT loads.
- UDLs are parametric. UDLs can be tied to reference dimensions, work lines, or trusses, so if moved, the load is automatically adjusted to match. Plus, the truss spacing is considered, so if the spacing is changed, the load is automatically updated.

Your one source for industry-leading software, equipment and support.

Innovation distinguishes between a leader and a follower.
—Steve Jobs, CEO, Apple; CEO, Pixar
Woodworking operations, along with the sawdust (PM) they produce, are coming under greater scrutiny by air quality regulators because they contribute to overall airborne PM levels. Increasingly in urban areas, PM levels are exceeding national EPA limits. When this happens, the area is considered in “non-attainment” and must submit plans to federal regulators on how they will reduce their production of PM back below the limit.

The worst case, as some component manufacturers in Virginia and Colorado have found out when applying for permits to expand and open new facilities, state governments may require you to install an expensive pneumatic conveyance and baghouse system to contain your sawdust. Generally referred to simply as a “baghouse,” this arrangement of hoods, ductwork, fans, filters and storage “bags” collects sawdust out of the air as it’s generated by your saws.

Generally, PM is measured in microns (one-thousandth of a millimeter). For a sense of scale, 10 microns is roughly the width of a human hair. The smaller the particle, the greater the threat it can pose to human health. While particles larger than 10 microns are effectively filtered by tiny hairs in the nose and throat, they can cause irritation of those areas. Anything smaller has a chance of getting into the respiratory system and blood stream and may cause significant harm. Particles 10 microns or smaller are referred to in governmental regulations as PM10, and are subject to quantity limitations—generally in tons per year.

Quantifying Sawdust Generation
It seems logical to assume the type of woodworking the building components industry does—single or multiple cuts on softwood 2x4 or 2x6 lumber—produce larger size sawdust, most of which should fall outside of the PM10 classification that is so heavily regulated. However, there appears to be no empirical evidence within the industry, through controlled testing or otherwise, to prove this assumption.

This lack of evidence has posed a potential problem as air quality regulations become more stringent with regard to PM10. The industry is left open to the misconception that you produce the same amount and type of sawdust that furniture manufacturers do. We all know this simply isn’t the case. However, due to a lack of proof, federal and state regulators are left to use the data they do have on woodworking facilities, which has been provided to them by furniture manufacturers. Fortunately, there is an alternative.

One method employed by the EPA in determining quantity is calculating a source’s potential to emit (PTE) using an emissions factor. By quantifying the sawdust you actually produce, you can prove baghouse system requirements unnecessary.

Why, you ask? Unfortunately, as a facility that handles and processes wood, your operation is a known producer of sawdust, a form of PM, that is regularly lumped together with the likes of sawmills and furniture manufacturers. This comparison is based on a widespread misconception of the operational practices of the structural building components industry. The good news is there is a way to address this problem and prove you don’t produce enough sawdust PM for them to worry about.

Particle Matter (PM)
The U.S. Environmental Protection Agency (EPA) is charged through the Clean Air Act to monitor air quality and set limits on various airborne toxins that may be emitted. As more and more regions of the country exceed these limits, and become areas of “non-attainment” as deemed by the EPA through the Act, local and state governments are passing regulations to limit the production of harmful emissions and PM. Federal and state environmental protection agencies have long qualified sawdust as “particulate matter,” or PM, and have adopted various regulations according to the size of the PM. Particle size influences two key factors: how long it will likely remain suspended in the air, and where in the body the particle may lodge itself if inhaled.

Wood truss operations produce sawdust, which is a form of particulate matter often categorized with sawmills and furniture manufacturers.

By quantifying the sawdust you actually produce, you can prove baghouse system requirements unnecessary.

One method to determine quantity is to calculate a source’s potential to emit (PTE) with an emissions factor. For a sense of scale, 10 microns is roughly the width of a human hair. The smaller the particle, the greater the threat it can pose to human health. While particles larger than 10 microns are effectively filtered by tiny hairs in the nose and throat, they can cause irritation of those areas. Anything smaller has a chance of getting into the respiratory system and blood stream and may cause significant harm. Particles 10 microns or smaller are referred to in governmental regulations as PM10, and are subject to quantity limitations—generally in tons per year.

Quantifying Sawdust Generation
It seems logical to assume the type of woodworking the building components industry does—single or multiple cuts on softwood 2x4 or 2x6 lumber—produce larger size sawdust, most of which should fall outside of the PM10 classification that is so heavily regulated. However, there appears to be no empirical evidence within the industry, through controlled testing or otherwise, to prove this assumption.

This lack of evidence has posed a potential problem as air quality regulations become more stringent with regard to PM10. The industry is left open to the misconception that you produce the same amount and type of sawdust that furniture manufacturers do. We all know this simply isn’t the case. However, due to a lack of proof, federal and state regulators are left to use the data they do have on woodworking facilities, which has been provided to them by furniture manufacturers. Fortunately, there is an alternative. One method employed by the EPA in determining quantity is calculating a source’s potential to emit (PTE) using an emissions factor.
Dust in the Wind
Continued from page 63

sions factor. An emissions factor is an approximate value that attempts to relate the quantity of a pollutant (sawdust) released to the atmosphere with an activity associated with the release of that pollutant (cutting wood). Let’s look at how you can utilize an emissions factor to quantify sawdust generation.

An emissions factor is used to estimate PTE emissions using the following formula:

\[ E = A \times EF \times (1-ER/100), \]

where:

- \( E \) = emissions of PM sawdust
- \( A \) = activity rate
- \( EF \) = emission factor, and
- \( ER \) = overall emission reduction efficiency, %

Activity Rate
To use the formula provided above, you first need to identify your activity rate (A). For component manufacturers, your activity rate should quantify the annual number of tons of sawdust your facility has the potential to emit (PTE). According to the EPA, the PTE of each of your truss saws is considered to be its average hourly sawdust production multiplied by 8,760 hours (i.e., the number of hours in a year).

To determine your annual truss saw PTE, or activity rate, you would utilize the following formula:

\[ A = \frac{8760 \text{ Hours} \times (\text{Board Feet (BF) of Material Cut/Hour})}{\text{(Weight of Material)}} \]

Further, to determine your material cut/hour, you would use this formula:

\[ \text{Material Cut/Hour} = \frac{\text{Wood Length} \times \text{Wood Width} \times \text{Blade Thickness} \times \text{Number of Cuts/Hour}}{144 \text{ inches}} \]

To find A, here is an example for a typical component manufacturer:

XYZ Truss has two linear truss saws that exclusively run through 2x4 dimensional southern yellow pine. First, to determine the material cut/hour, the above formula would be used in the following manner (we will assume the cut has a slight angle, so the length will be 5.5 inches instead of a straight cut of 3.5 inches):

\[ \text{Material Cut/Hour} = (5.50 \text{ inches}) \times (1.50 \text{ inches}) \times (0.25 \text{ inches}) \times (1000 \text{ cubs}/\text{Hour}) \]

In order to convert the measurement into board feet, the wood volume must be divided by 144 inches:

\[ \text{Material Cut/Hour} = \frac{(2.063 \text{ in}^3)}{144 \text{ inches}} \times 144 \text{ inches} = 144 \text{ inches} / (1000 \text{ cubs})/\text{Hour} \]

Consequently:

\[ \text{Material Cut/Hour} = (0.014 \text{ BF}) / (1000 \text{ cubs})/\text{Hour}; \]

or roughly 14 BF/hour

Since XYZ Truss has two truss saws, the facility has the capacity to cut 28.0 BF/hour. According to the U.S. Dept. of Agriculture, Spruce-Pine-Fir (SPF) has an average weight of 2.5 pounds/BF.

In this example, it is now possible to determine the activity rate (A) using the formula:

\[ A = \frac{8760 \text{ Hours} \times 28.0 \text{ BF/Hour} \times 2.5 \text{ pounds/BF}}{613,200 \text{ pounds}} \]

In this example, XYZ Truss annually has the potential to generate 306 tons of sawdust.

Emissions Factor
In most cases, emission factors (EF) are simply averages of all data available from acceptable quality sources, and are assumed to be representative of long-term averages for all similar sources. The primary source of emission factors is the EPA’s “AP 42” document, which lists the factors reviewed and approved by the agency. As of 2001, AP 42, Chapter 10: Wood Products Industry, listed an emissions factor of 0.35 for the rough wood cutting generally employed by the structural building components industry.

Unfortunately, that emissions factor has been temporarily suspended. However, it is the best data currently available to calculate potential emissions, so we’ll use it in this example.

Emissions Reduction Efficiency
In this example, XYZ Truss, like most component manufacturers, has not installed a sawdust collection system. They manually sweep up the floors multiple times each shift and deposit the dust in garbage cans that are emptied into a large storage bin outside. The bin is collected bi-weekly and transported to a local stable yard for horse bedding.

According to the EPA’s Office of Air Quality Planning & Standards, XYZ Truss has an overall emissions reduction efficiency (ER) of zero percent. Typically, baghouse and cyclone dust collection systems used by the furniture industry have an ER between 90-99 percent.

PTE Sawdust Emissions
In this example, XYZ Truss can now use the formula to calculate their total annual PM sawdust emissions:

\[ E = A \times EF \times (1-0/100) \]

\[ E = 306 \times 0.35 \times (1.0) \]

\[ E = 107 \text{ tons of airborne PM sawdust/year} \]

Conclusion
If you find yourself having difficulty obtaining permits due to concerns about your sawdust production, using this formula to quantify your PTE sawdust emissions may help you address this problem. This formula is discussed at greater length in the recently published WTCA Management Note, “Quantifying Sawdust Generation and Health Risk Factors,” available at www.sbcindustry.com/kh/managementnotes.php.

In addition, if you’re having difficulty with this issue, please don’t hesitate to contact WTCA staff, who can help you use this formula or work with individual regulators to reach a solution. SB C
The mass effect of monitoring building codes is revealed.

Have you ever thought about how the building codes can affect your business? The effects can be both good and bad depending on your preparation for the market place and the level of building code enforcement in the areas in which you conduct business. Chances are the codes touch you in both manufacturing as well as product distribution. It is important to be aware of the current code language and the upcoming changes so you can take advantage of all opportunities presented to your company.

The progression of the building code adoption is moving from many varied codes to the adoption of the I-Codes. A May press release from the International Code Council (ICC) stated that all 50 states have adopted or are in the process of adopting the provisions of the I-Codes. ICC President Wally Bailey was quoted: “I-Code adoptions in all 50 states make building design, construction and code enforcement easier for the entire building industry. Consumers are the big winners. The economic benefits of building to the latest codes can include improved safety, reduced maintenance costs, energy savings and lower insurance premiums.”

This is very good news in the fact that the more uniform the code adoption and implementation become, the less disparity in code requirements among the tens of thousands of code jurisdictions. The only downside to this approach is that the interest in the code development process at the ICC level will increase significantly. There will be many groups involved in this process making code changes that have to be monitored. The process will be further complicated when a broad application of codes is used in real building applications—the changes made in one section of the code may seem harmless until they are considered in the broader context. This factor alone could have a dramatic unexpected effect on the design and application of structural building components.

Thankfully, we’re prepared for this increasingly complex code development process. WTCA has long been a strong supporter of the code development process on the national level. This is made clear by the effective participation in the ICC code development process since the 2004 code cycle began, when WTCA was appointed as a voting member on the IBC Structural Committee. This activity has allowed us to develop many strong and valuable relationships with other interest groups (see sidebar). It is critical that we consider all interest groups when developing code specifications on component manufacturers are great. Although we go to great lengths to monitor the code adoption process at the state and local levels, member involvement is essential to cover all activities. WTCA members in many chapters have risen to this challenge, but we’ve only scratched the surface in terms of the effect we can have on the code development process. The key is early detection: if we know about local issues in the early stages, we can work to modify the problem areas and proactively support the items that are critical to our industry’s needs.

We need your local eyes and ears to strengthen our industry’s collective influence on building codes.

Into the Future

Due to the nature of the process, it will be necessary to continue to develop all existing and new alliances within the building code industry. In addition, we will have to continue to be the leaders in our industry through advancement in technology and its application. History allows us to see that many of the previous codes were developed on common knowledge of what had been done in the past. And if it had not been done in the past, a very conservative safety factor would be applied to make sure there would not be any long-term problems.

with a broader base of support.

In addition to the activities on the national level, there are states and many local jurisdictions considering the adoption of ICC language. The potential outcomes are numerous and the ramifications on component manufacturers are great. Although we go to great lengths to monitor the code adoption process at the state and local levels, member involvement is essential to cover all activities. WTCA members in many chapters have risen to this challenge, but we’ve only scratched the surface in terms of the effect we can have on the code development process. The key is early detection: if we know about local issues in the early stages, we can work to modify the problem areas and proactively support the items that are critical to our industry’s needs.

We need your local eyes and ears to strengthen our industry’s collective influence on building codes.

at a glance

- If you are aware of current code language, you can take advantage the opportunities presented to your company.
- Code language must be understandable to all parties in the marketplace in order for uniform enforcement.
- Monitoring code issues on a local level is critical to strengthen our industry’s collective influence on building codes.
Structural Building Codes Matter

Continued from page 67

Due to nature of how the code is developed and the fact that it is looked at one section at a time, very few people actually understand the code in its entirety from a design standpoint. This leaves us with a great challenge to determine if the sections addressing foundations, walls, floors and roofs have been written in a manner to address load path issues not only within each chapter of the code but from a practical application standpoint of the completed building envelope.

In an effort to incorporate the most sound application of engineering and technology on real world issues, we are fortunate to have the resources of the new SBC Research Institute (SBCRI). Although the opportunities are nearly endless for this new facility, one area will greatly impact future code provisions: testing and collecting data on flow of loads through all aspects of building construction with emphasis on structures to determine the interactions of components, systems and connections throughout. Over time, we will be able to support proposed code change language with a practical real world perspective supported with data resulting from research conducted at the SBCRI.

On the facing page is a summary of the ICC Final Action Hearing results that will ultimately appear in the 2007 ICC Supplement.

---

**ICC 2006/2007 Final Action Hearing Results Summary**

This is a preliminary summary of the International Code Council (ICC) Final Action Hearing (FAH) results from the Rochester, NY meeting. As an industry, we did receive a high level of success on proposals addressing the issues relevant to our industry. The code development process is a result of proposals submitted to change the current code on a pre-established schedule. The proposals were heard at the Code Development Hearings held in September and October of 2006. The results of the fall 2006 hearings were made available for public comment and those comments were heard in May at the Final Action Hearings. The results of the FAH have been posted and can be found at [www.sbcindustry.com/codes.php](http://www.sbcindustry.com/codes.php). The deliverable from all of this work will be the ICC 2007 Supplement. The process starts all over again with the 2007/2008 code change proposal cycle with a deadline for submissions is August 20, 2007. For more on the ICC code development process, see “The Big Picture” in the January/February 2007 issue of SBC.

The following is a table that lists of some of the more important issues that were addressed during the final action hearings.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Item Identification</th>
<th>Affected Code Section #,s</th>
<th>FAH Action</th>
<th>Modification Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>RB 34</td>
<td>Structural Insulating panels (SIP) standard &amp; references</td>
<td>R301.2.11 &amp; R202</td>
<td>AMPC1</td>
<td>Includes requirements for SIPs in IRC.</td>
<td></td>
</tr>
<tr>
<td>RB44</td>
<td>Seismic provisions</td>
<td>R301.2.2</td>
<td>AMPC1</td>
<td>Retains Seismic Design Category C in the consideration for irregular structures.</td>
<td></td>
</tr>
<tr>
<td>RB 179 - 227</td>
<td>Wall bracing issues</td>
<td>R602.10</td>
<td>Various</td>
<td>Extensively modified braced wall line requirements including requirements for continuously sheathed walls.</td>
<td></td>
</tr>
<tr>
<td>RB 264,265,266,268</td>
<td>Uplift connections</td>
<td>R802.10.5 &amp; R802.11.1</td>
<td>D</td>
<td>Work will continue to achieve a consensus position.</td>
<td></td>
</tr>
<tr>
<td>RB 114</td>
<td>Fire protection systems</td>
<td>313.1</td>
<td>D</td>
<td>Disapproved requirement for sprinklers.</td>
<td></td>
</tr>
<tr>
<td>IBC – 528</td>
<td>Definitions</td>
<td>1702</td>
<td>Clarify the code requirements for special inspections. See section below.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**S28-06/07 - Section: 1702 DEFINITIONS OF FABRICATED ITEM**

**FABRICATED ITEM.** Structural, load-bearing or lateral load-resisting assemblies consisting of materials assembled prior to installation in a building or structure, or subjected to operations such as heat treatment, thermal cutting, cold working or reforming after manufacture and prior to installation in a building or structure. Materials produced in accordance with standard specifications referenced by this code, such as rolled structural steel shapes, steel reinforcing bars, masonry units, and wood structural panels a standard, listed in Chapter 35, that requires quality control to be provided under the supervision of a third party quality control agency shall not be considered “fabricated items.”

When you’re trying to get ahead of the competition, choosing the right tools for the job can make a BIG difference.

Take the lead with IntelliBuild today!

Intelligent Building Systems has a wall panel system to fit your specifications, from manual assembly to automated production. By integrating IntelliBuild™ software with cutting-edge equipment, IBS continues its commitment to developing the very best complete wall panel package.

If you need the brawn of Power Tools, you can count on IntelliBuild to pull through. As the industry leader in Whole House Design featuring the Power of Parametrics, our software will get the job done.

Call today to get ONE Intelligent software application for Roofs, Walls, Floors, Openings and More!
An experience with OSHA reminds of the importance of machine guarding.

❑ OSHA machine guarding standards are meant to prevent the 18,000 injuries U.S. workers suffer while operating machinery.

❑ Six machine guarding requirements are defined by OSHA.

❑ Scott Arquilla’s story demonstrates that OSHA may make an exception if it is determined that a certain guard presents a hazard.

At a Glance

- OSHA machine guarding standards are meant to prevent the 18,000 injuries U.S. workers suffer while operating machinery.

- Machine guarding requirements are defined by OSHA.

- Scott Arquilla’s story demonstrates that OSHA may make an exception if it is determined that a certain guard presents a hazard.

A Closer Look at Safeguarding Your Manufacturing Equipment

by SBC Staff

Earlier in the year, Scott Arquilla of Best Homes, Inc. called in for advice with a question about a recent OSHA citation involving a non-existent machine guard on a “radial arm” saw. You’ll see why we’ve put this term in quotes by reading below.

A Real Life OSHA Experience – By Scott Arquilla

In late March 2007, a federal OSHA Compliance Officer called on Best Homes, Inc. because of the higher than industry average Days Away/Restricted or Transfer (DART) and Days Away from Work Injury and Illness (DAFWII) rates our company had experienced in the 2003 through 2005 calendar years. This inspection was promulgated under (OSHA’s) Site Specific Targeting 2006 (SST-06) Plan for worksites with a DART rate at or above 12.0 or a DAFWII rate at or above 9.0.

Because our rates were in excess of rates set by OSHA, the Compliance Officer reviewed a number of our existing policies, training records and our OSHA 300 Log for 2006. While the 2005 and 2006 OSHA 300 logs noted lower and substantially lower, respectively, DART and DAFWII rates than noted above (only one recordable accident with no lost work days in 2006), the Compliance Officer nevertheless proceeded with an inspection of our plant because she could not use the 2006 results and could only average the results for calendar years 2003 through 2005. No trends were considered. Even after hearing how impressed she was with our policies, procedures, training, the opinions of our employees on our the safety environment, and our vastly improved performance in 2006, she was very concerned with the lack of lower blade protection on our two pull saws under OSHA 29 CFR 1910.213(h)(1) and a formal citation was issued a few weeks after her visit (see language below).

Any component manufacturer who owns what we normally call a “radial arm” saw realizes these are not radial arm saws in the conventional sense. The angles that these saws typically cut are far in excess of the 45 degrees that most commercial and civilian saws are limited to.

While the fine was minimal, the real problem was that payment of the fine would require us to mitigate the hazard, which would be impossible to do. Our safety advisor sprang into action on our behalf. They were instrumental in convincing our saw manufacturer to attend our informal hearing on May 8. At that hearing, it was explained that these saws should be classified as “pull” saws, are typically only used in truss manufacturing operations where extreme angles are required to cut truss parts, that none of the available saws in the market have lower blade guarding as required by the standard, and that adding a lower blade guard would create a “greater hazard” to the operator. The saw rep further reviewed their numerous attempts to design and make available compliant guards, all of which became damaged and created that “greater hazard.” He even presented engineering, which noted that the forces involved when a saw operates at an extreme angle would push a blade guard into the moving blade.

Since we purchased the saws in 2004, our saw manufacturer has designed and equipped their saws with a blade guard when the saw is retracted as well as a laser to allow the operator to see where the blade will travel in order to prevent injuries. Incidentally, none of our injuries going back 30 plus years occurred using these saws.

Continued on page 74
OSHA reports that U.S. workers who operate and/or maintain machinery suffer approximately 18,000 amputations, lacerations, crushing injuries, abrasions, and over 800 deaths per year. The good news is that appropriate safeguarding and proper training can reduce or even eliminate the possibility of injuries.

Using a self-inspection checklist is one of the best methods for reviewing your machine guarding status. Since each piece of equipment is unique, completing a walk-through of your facility and inspecting each machine will provide you with a list of safe-guarding items for your maintenance department. As you examine each machine, missing guards or guards damaged in a way that compromises their ability to protect must render that piece of equipment temporarily out of service. Download a sample self-inspection checklist from Support Docs at www.sbcmag.info.

On Guard!

Continued from page 73

In the end, logic prevailed and the local OSHA office agreed to vacate our citation.

In July 1987, another pull saw manufacturer in the industry received an opinion from OSHA stating that their horizontal barrier guard with vertical side shields above the barrier guard met the intent of the regulation and any citation would be a de minimis violation, meaning there would be no fine or need to mitigate. Our saw manufacturer intends to seek a similar interpretation for their saw with help from our safety advisory.

Learn

In this case, Scott was able to argue (and for good reason) against the use of machine guarding for the equipment noted. However, one lesson we can take away from his experience is that something as simple (and necessary) as proper machine guarding must meet. One means to accomplish these requirements is to use barrier-style guards, two-hand operating devices and electronic safety devices such as light curtains and laser eyes. As you consider the language of the OSHA standard think about the three basic kinds of hazards every machine will have: 1. Point of Operation: where the “work” happens, such as cutting or pressing. 2. Power Transmission Device: the mechanical system that brings power to the machine including, but not limited to, belts, chains and gears. 3. Operation Controls: all other parts of the machine that move while the machine is turned on and active.

Protect

OSHA outlines the following six critical requirements machine guarding must meet. One means to accomplish these requirements is by implementing a detailed maintenance program (see preventative maintenance program article on page 28).

• Must prevent contact: keep hands, arms, and other body parts coming in contact with dangerous moving parts.
• Secure: Good safeguards should not be easily removed or manipulated. All guards and safety devices should be attached to the machine where possible and made of solid materials. (If a guard can’t be attached to the machine, it can be attached elsewhere.)
• Protect from falling objects: A helpful guard should ensure that nothing can fall into the active machine.
• Create no new hazards: In place, a safeguard should not create additional hazards. In Scott’s case, a lower blade guard on his pull saws could easily be damaged while cutting at steep angles and jam the saw, cause a severe laceration or amputation.
• Create no interference: A guard that obstructs the operator from performing quickly or comfortably is likely to be removed. Good safeguarding should improve efficiency.
• Allow for safe lubrication: Part of guard maintenance includes lubricating the moving parts. Suitable guards eliminate the need for maintenance workers to put any body parts within the hazardous areas.

Train

Once you have fully understood the OSHA standards that apply and met the requirements imposed by OSHA and the appropriate safeguards are in place, the next step will be to establish an employee training program to ensure a thorough understanding of all the risks associated with working on or around hazardous equipment. A comprehensive training program will incorporate hands-on, machine specific instruction that includes:

• A detailed description of each hazard the machine presents. (Each hazard should be physically identified.)
• Pointing out each safeguard on the machine, how it works and what hazard(s) it protects the employee from encountering.
• Explaining the importance of using and maintaining machine guards including when and where they are allowed to be removed. (Usually for maintenance purposes only.)
The premise of Extreme Makeover: Home Edition (EMHE) is now one that most people, including those in the structural building components industry, are quite familiar with. Now in its fourth season, the show revolving around the ultra-rapid construction of a home for a family in need has been a big hit for ABC. Over the show’s course, several WTCA member companies have participated in the show and been featured in SBC. However, the episode featuring the Collins family build, which aired on April 29, 2007, was different. The Collins home was built out of cold-formed steel components.

While this was not the first time a steel structure appeared on EMHE, it was the first known occurrence of a WTCA member company donating steel components. Southern Components, Inc. (SCI) in Shreveport, LA, donated approximately $30,000 worth of cold-formed steel roof trusses to the Collins build in Murfreesboro, AR. SCI, which has both wood and steel divisions, was approached about participating in the show by RealSteel Homes in Rogers, AR—one of their steel customers.


Good Sense, Good Cause
RealSteel Homes is a company that, according to its website (www.realsteelhomes.net), is dedicated to helping rebuild the residential community of the Gulf Coast Region. After Hurricanes Katrina and Rita, the company purchased tracts of land in Ocean Springs, MS, and began building steel duplex homes and steel single-family homes. SCI started working with RealSteel Homes after being asked to bid a project and coming in with the best price, plus being in a convenient location—close to the coast of Mississippi where RealSteel had purchased land.

Jason Windham, SCI’s steel truss division manager, said that RealSteel contacted SCI to bid on some of their projects in 2005. Their business relationship grew positively from there, which led to SCI’s agreeing to participate in EMHE when RealSteel approached them in December 2006. After having built a healthy business relationship with the company, SCI was willing to donate at their customer’s request. Plus, of course, it was a good cause. But, one thing that did not contribute to SCI’s decision to participate was a hope for publicity.

“We did not do it for the publicity, because the truss suppliers get very little recognition,” said Windham. “Most suppliers get very little. At the end of the show, they ran a credit… it was really for our customer. They asked us to [participate] and we were happy to do it.”

Metal Minded
RealSteel Homes was formed in 2005 after the president of PB2 Architecture and Engineering (Steve Butcher) and the president of Stoam (Russ Wright) met at an earlier EMHE build. PB2 is an architecture and engineering firm with offices...

Choose from:

CFSTATO 1 - For hiring inexperienced technical employees
CFSTATO 2 - For hiring experienced technicians

To order or learn more about TATO for steel, visit www.cfsc.sbcindustry.com

WTCA’s Cold Formed Steel Council (CFSC) is pleased to unveil TATO (Technical Assessment Test Online) for the cold formed steel industry. Determine quickly and accurately if job candidates have the technical aptitude and skills required to succeed with TATO’s interactive, 50-question online tests that evaluate candidates’ math, 3-D, and design skills along with industry knowledge.

Continued on page 78
Steel Style
Continued from page 77

in Dallas, Chicago, Kennedale, TX and Rogers, AR. Stoam, based in Springfield, MO, is the maker of a patented unified wall assembly that combines steel framing and foam insulation. After meeting at the previous build, Wright and Butcher decided to join together and form RealSteel Homes, which uses Stoam’s product in every home it builds.

“They could see that there was a need in the construction industry, and in residential building, too, for a panelized sustainable building model,” said Cindy Branscum, general manager at RealSteel. “Since the panels were built with steel, then the steel trusses just seemed logical.”

Windham, who is knowledgeable about the Stoam product used in all RealSteel homes, is aware of the link between that product and the company’s use of cold-formed steel trusses.

“The foam-insulated metal wall panel pushed [RealSteel] toward using metal trusses,” Windham said. “They had access to that [product]. They thought a metal truss would complement that, and they could present it to homeowners as all-steel construction.”

While Murfreesboro (where the Collins family home was built) is not in a coastal area, most of RealSteel’s projects are. Branscum explained that in Mississippi and other coastal states, some homeowners need wind insurance, which can be very expensive. However, the cost may be less if a home has a semi-wind resistive rating—which means it meets the requirement of being able to withstand 30 psf of pressure. Branscum said that owning a home with this semi-wind resistive rating means a possible wind insurance rate reduction of up to 60 percent.

“Our homes meet that [requirement],” Branscum said.

“I would say that we probably had about one week to do the design work and about ten days to actually fabricate the trusses (after the designs were approved). So it was on a very short fuse.”
— Jason Windham

“Speedy Success
After RealSteel had formed and was working with SCI for their projects in Mississippi, Butcher was approached again by EMHE to see if he’d be interested in participating in another build. Branscum said that Butcher was interested, but this time he wanted to participate as RealSteel Homes instead of PB2. After this was agreed upon, RealSteel approached SCI to ask them to be part of the show.

Windham said it was December 2006 when RealSteel asked SCI to participate in EMHE, and SCI agreed. In mid-January 2007, the company received the house’s preliminary floor plan to work with. Windham began the design work, which he did all of, at the end of January. The trusses were built over the course of about ten days.

“I would say that we probably had about one week to do the design work and about ten days to actually fabricate the trusses (after the designs were approved),” Windham said. “So it was on a very short fuse.”

Fortunately, the EMHE work came at what ended up being a good time for SCI. Things were a bit slower in their steel division than they had been, so the company wasn’t forced to lose any business due to their willingness to donate. They were also able to use two crews, run two lines and get all the trusses fabricated within normal working hours.

“We were able to work it in without having to put other jobs...

Continued on page 80
trusses arrived at the jobsite, there was a wait to get them unloaded. “That was a downside,” said Windham. “It’s kind of a ‘Hurry up!’ and then we had to get there and wait.”

Large Contribution, Valuable Customer

Overall, Windham said the process and experience of working on an EMHE project was interesting and positive. “It’s really amazing—the whole production, what goes into it and how many people are involved,” he said.

Watching the program and hearing the story of the family and the sacrifices they’d made felt rewarding, Windham said. “It makes you feel good that you were a part of it and able to contribute to that.”

Windham also said the secrecy surrounding the program was an interesting aspect of the job. For example, a project number was assigned to the job, and that’s what it was called in all the paperwork. Another secretive element was the location. SCI wasn’t told exactly where the job was until about a week before delivery. Until then, they’d only known it was in southwest Arkansas. “It’s really hush-hush,” said Windham. “They don’t want the word getting out of what the job is. They don’t want the homeowner to find out about it.”

While there were several things that made participating in the show a positive experience, there was one main thing that really made the project worthwhile for SCI. That was the fact that the company did it for a valued customer—a customer they had worked well with over a couple of years, and would like to continue working with. Windham said that if a component manufacturer is considering being a part of EMHE, it should be for a valued customer or for a company the CM hopes to do business with in the future. Windham said SCI would not have done it for a general contractor they weren’t familiar with or hadn’t worked with in the past—and he said he doesn’t think other CMs should either.

“It’s a large contribution for a smaller company, but overall it was a good experience,” he said. “If you’ve got a good customer involved, somebody you’re doing a lot of business with or that you’re trying to do a lot of business with, then I would say it would be well worth it. The contractors really do appreciate all the suppliers. I think it goes a long way to building a business relationship with some customers to participate in something like this.”

Steel Style

Continued from page 79

off or turn down other work,” said Windham. “Right now we’re pretty busy, and this would not be a good time. So it happened to work out in our favor.”

Windham said the hardest part of being involved was sticking to the required timeline. “You know the importance of the job and that you can’t run behind,” he said. “You can’t have a delivery a day later than they expected...on something like this, where you’ve got so many volunteers and they’re on such a strict schedule to get this job finished and furnished in a week.”

SCI did succeed in keeping to the schedule, but when their
MITEK® STABILIZERS® CUT FIELD LABOR,
BUILD YOUR BOTTOM LINE.

STABILIZER® LATERAL BRACES FROM MITEK® ARE A SIMPLE INSTALLATION TOOL THAT MAKES SPACING AND BRACING ROOF TRUSSES EASIER, QUICKER, SAFER*, AND MORE ACCURATE.

Want proof? We set up a side-by-side comparison, with a single crew framing the roof system of a 2,600 square foot home - the first time using traditional truss installation techniques, the second time using STABILIZERS.

The results speak for themselves. The STABILIZER crew finished the job nearly an hour faster than the traditional install crew, representing a total labor savings of over 45%!

STABILIZERS are available from your local MiTek roof truss supplier. Or to learn more, and try STABILIZERS for yourself, call 800.325.8075 or visit www.mii.com/stabilizer

STABILIZER Lateral Braces. Another way MiTek brings you — and your customers — the Power to Perform.™

*WHEN USED WITH DIAGONAL BRACING, STABILIZER PROVIDES EFFECTIVE TOP CHORD STABILITY DURING INSTALLATION.

For reader service, go to www.sbcmag.info/mitek.htm. See additional ads on pages 2-3, 19, 103.
Insurance Broker Partner Program

Partnering with WTCA to Serve Component Manufacturers

Our goal with this program is to provide our component manufacturing members with a group of insurance agents who are well equipped to advocate with underwriters on behalf of our industry, and help them find appropriate and cost-effective coverage.

- Educated on important industry topics including in-plant and jobsite safety and quality control.
- Working for component manufacturers to find competitive insurance rates.
- Aligning with attorneys and expert witnesses who are knowledgeable about our industry.
- Understanding the WTCA tools and programs that help lower your risks.

“Too many [component manufacturers] don’t know what to ask for and what to expect of their insurance brokers. The component manufacturer/insurance broker relationship must go beyond price shopping and going to lunch. Component manufacturers must delineate what they want and expect of their insurance brokers and hold them accountable. Much of this has been done for component manufacturers already with the WTCA Insurance broker program.”

— Kent Pagel, WTCA Legal Counsel

WTCA has created a new level of recognition for those insurance brokers who very aggressively serve our industry in such ways as assisting in the creation of pertinent WTCA training and certification programs, participating in industry meetings and programs, as well as promoting WTCA membership and our tools for lowering risk. Our “EXPERT” partners go the extra mile.

“Our company benefited significantly from using one of the approved brokers this year—we saved tens of thousands over a proposal for the same coverage from another broker.”

— Kendall Hoyd, President
Idaho Truss & Component Co., Meridian, ID
608/274-4849 phone • 608/274-3329 fax • wtca@sbcindustry.com • www.sbcindustry.com

The following companies are committed to becoming knowledgeable about the component manufacturing business to better serve you. Please consider contacting these companies when making your insurance and risk management decisions.

Expert Partners
Bowermaster & Associates
Richard Langton • Downey, CA • rlangton@bowermaster.com
562/923-9631 • 562/862-3482 fax

Sirak-Moore Insurance Agency, Inc.
Doug Davenport • Canton, OH • dougd@sirakfinancial.com
330/493-3211 • 330/493-0642 fax

Taylor, Turner & Hartsfield Insurance Services
Stevie Melina • Cumming, GA • smelina@thtns.com
770/889-8606 • 770/887-8507 fax

Partners
Diversified Insurance Industries, Inc.
Bob Bruns • Baltimore, MD • bbrun@dii-insurance.com
410/433-3553 • 410/433-3440 fax

Harden & Associates
Richard R. Perroquet • Jacksonville, FL
rperroquet@hardenassociates.com
904/421-5363 • 904/634-1302 fax

Holmes Murphy & Associates
Jim Kapsch • Cedar Rapids, IA • jkapsch@holmesmurphy.com
319/896-7708 • 319/896-7651 fax

MJ Insurance of Arizona, LLC
Michael Schmidt • Phoenix, AZ
michael_schmidt@mjinsurance.com
602/346-9100 • 602/346-9105 fax

For reader service, go to www.sbcmag.info/wtca.htm
Chapter Corner

Chapter Highlights
California Engineered Structural Components Association
In May, the California Chapter held a special statewide meeting in Las Vegas instead of their typical separate meetings for the Northern and Southern Regions. High on the agenda was the Safety Zone for Off-Loding Components. Several chapter members are now beta-testing the Safety Zone signage and their experiences are being fed back into the development of this program.

Another hot topic was the trouble that a few members have encountered with the California High Point (CPH) when hauling wall panels and a specific interpretation of the law that would require hauling them vertically instead of stacked horizontally. The members discussed possible groups with which to work to change the law and finding a legislator to support the chapter’s efforts. The WTCA Management Note was also drafted to educate lawmakers and agencies about the wall panel industry, safety practices and permitting regulations.

The chapter also seized the challenge to conduct more component plant tours to educate their marketplace. In addition to scheduling upcoming chapter meetings at members’ plants, plans were started for a large educational event in Southern California. Targeting 300 architects and engineers, the event will include tours at local plants and seminars at a central location. Details for this event will be finalized at the CalESCA-South Chapter meeting on August 28.

The California Chapter members also voted to become a founding sponsor of the SBC Research Institute in Madison, WI and everyone was encouraged to attend this summer’s Open House.

Central Florida Component Manufacturers Association
The main topic of discussion at the May Central Florida Chapter meeting was local membership renewals. Chapter value to local manufacturers. Fortunately there are no critical issues that are causing market problems, so this is a time to step back and look at how the chapter would like to focus its efforts. Industry consolidation was also discussed and how its effect on the composition of the membership has evolved.

The meeting attendees agreed to renew their efforts to engage the smaller local manufacturers and build up the grassroots of the chapter membership. They also discussed possible meeting programs to generate more attendance. The idea of combining chapter meetings with educational programs, such as a seminar for builders on handling, was suggested.

The May meeting also featured a presentation on WTCA programs to build and support your business, including SCORE, forklift certification, Product Safety, and the SBC Scholarship. (June 2010, 1:30-3:30, The Plant Basic Training and the driver training program in development. An update was provided on the status of CEU approval for the fire service truss plant tour, with a ruling by the Department of Business and Professional Regulation. Both the accomplishments of the FBMA/WTCA Joint Legislative Committee were noted, too.

Iowa Truss Manufacturers Association
The Iowa Chapter held its June meeting and annual golf tournament at the Legacy Golf Club in Norwalk, IA. The guest speakers were David Parrino of Plum Building Systems, Tom Lambertz of Midwest Lumber, Dave Mitchell and Perry and Joe Griffin from the Iowa Department of Natural Resources (IDNR) and they delivered a presentation on storm water pollution prevention. Included in the presentation were a history and overview of the storm water program, the application process for a National Pollutant Discharge Elimination System (NPDES) Permit No. 2, pollution prevention plans, and inspections by the IDNR and Environmental Protection Agency (EPA). Many questions were answered regarding enforcement and jurisdiction with the IDNR’s operational philosophy, which was defined as cooperative and consultative.

Ray Noonan, Alan Esch and Andy Green gave the Education Committee Report. Certificates of Attendance have been mailed to the attendees of all of the winter session TITVs. It was reported that a controlled wood truss demonstration fire will be held in conjunction with a plant tour on August 25, co-sponsored by the chapter and the Iowa Fire Service Training Bureau. A special thank you was extended to all of the members of this year’s Education Committee: Andy Green and Craig Thier of Cascade Mfg Co, Alan Esch of Lumber Specialties, Bruce Kinney and Scott Baker of Timber Roots New Hampton, Dave Mitchell and Jim Gach of Engineered Building Design, Rick Parrino of Plum Building Systems, Tom Lambertz of Roberts & Dykdaht, and Tod Hennessey of ITN Building Components Group.

The next chapter meeting will be held on Thursday, October 4 at the BCMC show in Columbus, OH. The members were also urged to mark their calendars for February 26, 2008 at 7:00 a.m. when the Iowa Chapter will host a Legislative Breakfast at the Capital Building Legislative Dining Room. This will be a timely opportunity to lobby on any issues then being debated in the House and Senate. The Iowa Homebuilders and Iowa Lumber Manufacturers are invited to participate, too.

Mid Atlantic Wood Truss Council
The Mid Atlantic wood truss council met at Katmandu in Trenton, NJ. The guest speaker was John Terry of the Codes and Standards Division of the New Jersey Department of Community Affairs (DCA). New Jersey adopted the 2006 IRC/ICC with NJ amendments on February 20 with a 6-month grace period ending August 19. The NJ code will be a free download online at e-codes and will be available in print May 30.

New Jersey deleted the truss placement diagram exemption in Section 2303.11.3. “Exception: When a truss placement diagram is prepared under the direct supervision of a registered design professional, it is required to be signed and sealed.” The rationale for this deletion is that the text of 2303.4.1.3 makes it clear that the truss placement diagram does not require a seal. Truss placement diagrams shall not be required to bear the seal or signature of the truss designer. The truss bottom chord identification labeling information was added to both the IRC and IBC as: “Figure 2303.11.5 Truss Identification – Each truss shall be labeled or otherwise indelibly marked at the factory with the individual truss number as assigned in the truss layout plan. The indelible marking or label shall be located on the bottom chord of the truss, inside the bearing points. When indelible markings are used, each digit shall not be less than one inch high. When labels are used, the label shall be a minimum of five inches by three inches and shall be affixed to the truss by a truss plate. Labels shall remain affixed to the truss.”

Continued on page 98
Options would be researched and more details would be available at the Miramar Fire & Rescue following that group's request for a Carbeck CD. The inclusion of whole house engineering software and more engineering tools being available to truss manufacturers, attitudes might change as well. With the development of a truss-placement plan, the expectation focused on the status of immigration reform in the U.S. and the implied industries and states, the group felt that clearly states, "A truss-placement plan is not required to be signed and sealed by an engineer or architect unless prepared by an engineer or architect or specifically required by the Florida Building Code." A recap of the annual SBC Legislative Conference was given, since the presidents of both chapters attended. Chris Lambert and Mike Redmond presented the information with plant tours, the Indiana Chapter met in April at Stock Xchange Furniture, Inc., in Franklin. At the meeting before the tour, building officials and contractors, there are many more online TTWs providing a copy of Florida Senate Bill 422, signed into law in 2005, that would like to team up on their Capitol Hill visits in 2008. Several issues involving OSHA and the IC Department of Labor (DOL) were discussed. Members were encouraged to come prepared to speak on their experiences with OSHA at the next chapter meeting. Also on the June meeting agenda was a discussion of reviews by the Consultative Services Bureau set up by DOL to help employers achieve a safe and healthful workplace. The recent WTCA Board resolution asking that chapters participate in state and local Home Builder Association (HBA) code committee meetings was reviewed, and the members agreed that establishing an open relationship with the state HBA code board would benefit the chapters. This approach will be pursued this summer.

WTCA—Indiana

The June Indiana Chapter meeting began with a discussion on the WTCA Board resolution encouraging chapters to participate in local Home Builder Association (HBA) code committee meetings. Scott Arquila agreed to follow up on this in the Greater Chicago section.

Southwest Florida Truss Manufacturers Association

The group also discussed the possibility of holding an Illinois Legislative Conference (http://www.woodmarkets.com) for appealing a building official's interpretation of the code. An update was given on the status of a uniform building code for the State of Illinois. Although the home builders associations are at odds in favor of a single code, the issue appears to have stalled in committee. The Illinois Chapter was also busy with educational presentations this spring. It delivered a presentation on BCSC to the South Suburban Building Officials Association and distributed over 50 copies of the BCSC to chapters. The Illinois chapter would like to plan a seminar in the central portion of the state, such as Springfield or Bloomington. The chapter's participation also continued in Safe Home Illinois (SHI), an initiative by the American Red Cross of Greater Chicago and Illinois Emergency Management Agency. Geared toward architects and builders, the next workshop was being planned for June in Aurora and the chapter was asked to present on wind design and loss mitigation. (The June workshop was later postponed.) The chapter is going to make an effort to return to the Illinois Fire Inspectors Association Fall Safety Trade Show. Having distributed Carbeck CDs at a booth last year, the members found this to be very informative in disseminating accurate information on the fire performance of our products. Especially in light of recent attempts to limit the use of trusses and engineered wood products throughout the state, the value of education and information is significant.

WTCA—Indiana

Continuing with its plan to hold its chapter meetings in conjunction with plant tours, the Indiana Chapter met in April at Stock Components in Franklin. At the meeting before the tour, building code issues were at the top of the agenda. Joe Heineman, P.E., delivered a presentation on pending amendments to the residential code and changes that will affect trusses and walls panels. In addition, Joe addressed the building inspection process and the methods for appealing a building official’s interpretation of the code.

As the Michigan Chapter has discussed, the Indiana Chapter is considering creating a standard jobsite Package for its members to use in their deliveries. Having a uniform jobsite package would be helpful in educating customers. Samples of the WTCA JobSite Package were distributed for review at the meeting, and a survey of the members on their standard practices was planned. A subcommittee was formed to review the information and make a recommendation at the July chapter meeting. SB C.

Participation in the April conference in Washington and their meetings with government agencies and Congressmen/Manuscripts...
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 same cost goods and services in some base period - also called cost-of-living index)

<table>
<thead>
<tr>
<th>Expenditure Category</th>
<th>Changes from preceding Mo.</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>June</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Items</td>
<td>.6</td>
<td>.4</td>
<td>.7</td>
<td>7.0</td>
<td></td>
</tr>
<tr>
<td>All Items Less Food &amp; Energy</td>
<td>1.2</td>
<td>1.1</td>
<td>1.6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Unemployment Rate
<table>
<thead>
<tr>
<th></th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>4.4</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Producer Price Index - Customized Industry Data

<table>
<thead>
<tr>
<th>Engineered Wood</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood Mgmt. Inc.</td>
<td>9.62(P)</td>
<td>9.62(P)</td>
<td>9.52(P)</td>
<td></td>
</tr>
<tr>
<td>Mkt.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Truss Mfg.</td>
<td>111.89(P)</td>
<td>111.99(P)</td>
<td>110.20(P)</td>
<td></td>
</tr>
<tr>
<td>Mkt.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lvl.</td>
<td>113.69(P)</td>
<td>113.69(P)</td>
<td>113.69(P)</td>
<td></td>
</tr>
<tr>
<td>Wood Trusses</td>
<td>108.59(P)</td>
<td>108.59(P)</td>
<td>106.29(P)</td>
<td></td>
</tr>
<tr>
<td>Mkt.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>113.69(P)</td>
<td>113.69(P)</td>
<td>112.44(P)</td>
<td></td>
</tr>
<tr>
<td>Primary Products</td>
<td>108.59(P)</td>
<td>108.59(P)</td>
<td>106.29(P)</td>
<td></td>
</tr>
<tr>
<td>Mkt.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary Products</td>
<td>110.89(P)</td>
<td>110.10(P)</td>
<td>110.99(P)</td>
<td></td>
</tr>
<tr>
<td>Mkt.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Bureau of Labor Statistics

Consumer Confidence Index
The Consumer Confidence Index is a measure of consumer optimism or pessimism toward current economic conditions. The consumer confidence index was arbitrary 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%).

<table>
<thead>
<tr>
<th>Mon</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan 07</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June % &amp; +/-</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>105.1</td>
<td>102.9</td>
<td>110.0</td>
<td>110.2</td>
<td>112.2</td>
<td>108.2</td>
<td>104.0</td>
<td>108.5</td>
<td>103.9</td>
</tr>
</tbody>
</table>

Source: www.consumercouncil.org

JUNE 2007 ISBM BUSINESS SURVEY AT A GLANCE

<table>
<thead>
<tr>
<th>Series Index</th>
<th>Direction</th>
<th>Jun vs May</th>
<th>Rate of Change Jun vs May</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISM Manufacturing Index (formerly PMI)</td>
<td>56.0</td>
<td>Gaining</td>
<td>Faster</td>
</tr>
<tr>
<td>New Orders</td>
<td>60.3</td>
<td>Gaining</td>
<td>Faster</td>
</tr>
<tr>
<td>Production</td>
<td>62.9</td>
<td>Gaining</td>
<td>Faster</td>
</tr>
<tr>
<td>Employment</td>
<td>51.1</td>
<td>Gaining</td>
<td>Slower</td>
</tr>
<tr>
<td>Supplier Deliveries</td>
<td>49.7</td>
<td>Slower</td>
<td>Slower</td>
</tr>
<tr>
<td>Inventories</td>
<td>45.3</td>
<td>Contracting</td>
<td>Faster</td>
</tr>
<tr>
<td>Customers' Inventories</td>
<td>47.0</td>
<td>Too Low</td>
<td>Faster</td>
</tr>
<tr>
<td>Prices</td>
<td>86.0</td>
<td>Increasing</td>
<td>Slower</td>
</tr>
<tr>
<td>Backlog of Orders</td>
<td>53.5</td>
<td>Slower</td>
<td>Faster</td>
</tr>
<tr>
<td>Exports</td>
<td>56.0</td>
<td>Slower</td>
<td>Slower</td>
</tr>
<tr>
<td>Imports</td>
<td>54.5</td>
<td>Slower</td>
<td>Slower</td>
</tr>
</tbody>
</table>

Source: Federal Reserve Board

조리사 지위를 위한 손님의 요청을 수신한 것이 없습니다. 자세한 정보는 www.sbcmag.info를 참조하십시오.

U.S. Prime Rate

<table>
<thead>
<tr>
<th>Month</th>
<th>2007</th>
<th>2006</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar</td>
<td>8.25</td>
<td>7.50</td>
<td>5.50</td>
</tr>
<tr>
<td>Apr</td>
<td>8.25</td>
<td>7.75</td>
<td>5.75</td>
</tr>
<tr>
<td>May</td>
<td>8.25</td>
<td>8.25</td>
<td>5.75</td>
</tr>
<tr>
<td>June</td>
<td>8.25</td>
<td>8.00</td>
<td>6.00</td>
</tr>
</tbody>
</table>

Looking for more information? It's only a click away! Visit the SBC web site to:
Learn more about and request information from SBC Advertisers • Read the latest in Industry News • Visit the SBC article archive • Place an online classified ad • and much more!

www.sbcmag.info
TRUSS MACHINE FOR SALE
800/526-6465 • Scales, Sizes & Pricing • Call L. I. Industries: sbcmag.info or visit www.sbcmag.info.

TRUSS WALL FLOOR TRUSS MACHINES FOR SALE
Floor Truss, Serial # 82585, Late 80s. Both $15,000.00 ea. Model # MFT 40' Serial # 62288, Early 90s. Model # PCT 40' Floor Truss, Serial # 19497, $15,000.00 ea. Model # MFT 40'.

TRUSS COMPONENT SALESPERSON
Truss Salesperson needed for Halstead, Kansas. Must have a good understanding of residential and commercial components like trusses and wall panels, and have a passion for being the best; be able to interact at all levels of an organization, and have exceptional problem-solving skills. In return, we offer a rewarding work environment with strong opportunity for growth and success, a solid benefit package, incentive based on performance, continuing education benefits, and many other traditional and non-traditional benefits. Qualified candidates with a college degree in a related field and at least 3 years of design experience should email resumes to: weneeddesignjobs@omic.com.

BUY/SELL USED EQUIPMENT
Wanting to purchase used machinery? Looking to sell excess equipment? Wasserman & Associates will offer the industry’s largest used and new equipment selection at the BCMC Show in Columbus, OH (October 3-5). Call us at 800/382-0239 or visit us at www.wassermanassociates.com.

CARPENTER PENCILS • ARCHITECTURAL RULERS
Carpenter Pencils: Printed 7000 16G, 10,000 14G, 20,000 12G. Rulers: Fax for Scales, Sizes & Pricing • Call L. Industries: 800/526-6465 • Fax for samples: 718/793-4316

HYDRO-AIR Multi Head Glide Away Truss Machine for Sale.
$15,000.00 - JOB B-44-3, 9 Heads. Includes steel floor plates. Contact Paul at 540/387-0273 ext. 1320 or paul@timbertruss.com.

TRUSS COMPONENT SALESPERSON
Truss Salesperson needed for Halstead, Kansas facility. Candidate will: enjoy a competitive atmosphere where being #1 to our (internal and external) customers is paramount; be able to translate multiple tasks into solid plans and meet priorities and deadlines every time; help the team and the company achieve aggressive goals; have a passion for being the best; be able to interact at all levels of an organization, and have exceptional problem-solving skills. In return, we offer a rewarding work environment with strong opportunity for growth and success, a solid benefit package, incentive based on performance, continuing education benefits, and many other traditional and non-traditional benefits. Qualified candidates with a college degree in a related field and at least 3 years of design experience should email resumes to: weneeddesignjobs@omic.com.

OPPORTUNITIES ABOUND IN GULFPORT, MS
Are you ready for the career chance of a lifetime? We need Plant Managers, Sales Managers, Design Managers, Truss Designers and Wall Panel Designers in our facility in Gulfport, MS. Email your resume to dval@ufpi.com or fax to 706/367-8216.

PIG-FOR-BACK® 4-WAY FORKLIFT
Now deliver extra long loads to highly congested sites (previously inaccessible) w/ Princeton’s unique PiggyBack “4-Way” truck mounted forklift. Designed to move long loads through tight spots, the “4-Way” easily handles EWP siding & lumber with exceptional stability. Call 800/331-5851 or email sales@piggy-back.com.

PLANT MANAGER WANTED
If you want to join a company with a great opportunity for advancement, then we need you in Jefferson, GA. Plant Manager position available for $20 million roof & floor truss and wall panel facility. Full P & L responsibility. Email your resume to dval@ufpi.com or fax to 706/367-8216.

Industry News

BUILDER CONFIDENCE FALLS FURTHER IN JULY
A surplus of unsold homes on the market, combined with ongoing concerns in the subprime mortgage arena and affordability issues associated with tightened lending standards and higher interest rates, continue to take a significant toll on builder confidence, according to the latest National Association of Home Builders/Wells Fargo Housing Market Index (HMI), released July 17. The HMI declined four points to 24 this month, which is its lowest level since January of 1991.

“The bottom line is that the single-family housing market is still in a correction process following the historic and unsustainably high levels of the 2003-2005 period,” noted NAHB Chief Economist David Seiders. “Builders are actively trimming prices and offering buyer incentives to work down their inventories, but meanwhile there is a large supply of vacant existing homes on the market, and affordability problems persist despite efforts to attract buyers.

“In spite of these challenges, we expect to see home sales get back on an upward path late this year and we expect housing starts to begin a gradual recovery process by early next year. At that point, this market will be operating well below its long-term potential, providing plenty of room to grow in 2008 and beyond.” SBC

Visit www.sbcmag.info for additional industry news!

New Products

New tables PLANX™ Ready
Available from MiTek, Pacific Automation, and most other table manufacturers

TRUSS COMPONENT SALESPERSON
Truss Salesperson needed for Halstead, Kansas facility. Ideal candidate has experience in floor & roof trusses or related fields. Position offers salary, on-the-job transportation & generous benefits. Idaho Timber Corp. is a division of Lendacdia National. Email resume to lcarter@idahotimber.com or fax @ 316/830-3167.

TRUSS WALL FLOOR TRUSSES FOR SALE
$15,000.00 ea. Model # PCT 40’ Floor Truss, Serial # 62288, Early 90s. Model # MFT 40’ Floor Truss, Serial # 62288, Early 90s. Model # MFT 40’ Floor Truss, Serial # 82585, Late 80s. Both machines are in good operating condition. Contact Paul at 540/387-0273 ext. 1320 or paul@timbertruss.com.

MatchPoint™ PLANYX AUTOMATED JIGGING
Installs on most any table. Jigs most any truss.

PLANX™ Ready Retrofit
Many brands and models of older tables can be made PLANX Ready, including MiTek and Pacific Automation tables

For reader service, go to www.sbcmag.info/mitek.htm. See additional ads on pages 2-3, 19, 21, 82-83.
More than 100 members of the structural building components industry gathered for the grand opening of the Structural Building Components Research Institute (SBCRI) on June 28. Attendees came from across the U.S. to attend the highly-anticipated open house where the new 5,730 sq. ft. research and testing facility was unveiled. Following a brief ribbon cutting ceremony, attendees were invited to tour the facility in small groups. The most-frequently heard comment from attendees had to be the word “amazing.” With an unassuming exterior, the simple building contains impressive, state-of-the-art testing equipment, computer systems and enough space for a completely enclosed structure to be tested. The grand opening was a success, and it was an excellent beginning of what is sure to be an exhilarating next step forward for the industry. For full coverage of the day’s events make sure to check out the Open House Recap in our September/October issue!

Revealed:
How you can take advantage of current market conditions to grow your business.

It’s no secret that the market is tough. But by partnering with Alpine Equipment, you’ll ride out the tough times and be ready for the recovery.

It’s true.
Smart managers know that increasing efficiency and productivity means a huge head start when things heat up again.

Manage your overhead.
With five- and six-year financing arrangements — and low payments for the first 12-18 months — there’s minimal impact to your cash flow.

Crazy! Like a fox!
Companies that grew after the last downturn were the ones that seized the advantage!

How about you?
Get a great deal on state-of-the-art products from Alpine Equipment and fantastic terms from Alpine Equipment Finance.

We’ll customize a program to fit your needs!

For example
Finance $230,000 for the low amount of $1,500 a month for 12 or 18 months with the balance over 48 or 60 months.

Find out more.
Call Clem Law today, toll-free at 800-662-5955 or e-mail CWLAW@Comcast.net or call Alpine Equipment at 800-755-6005.

Finance program subject to credit approval.
“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

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