

# ENGINEERED WOOD

AUTUMN 2011

## Journal



### CROSS LAMINATED TIMBER

Conceived in Europe, CLT  
Is Quickly Gaining Interest  
in North America

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### MEETING GRAS

APA Annual Meeting  
and Info Fair Set for  
The Big Easy

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### SERVICE STARS

EWTA Supplier and  
Innovation Award Winners

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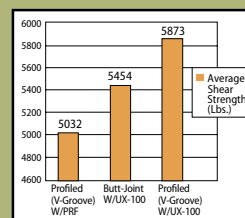
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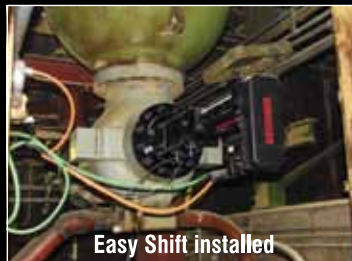
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ENGINEERED WOOD JOURNAL  
Volume 14, No. 2, Autumn 2011

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**About the Cover Photo:**

A Norwich, England educational facility is a showcase for cross laminated timber. Is there a future for the product? See story, page 12.



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## PRIME *lines*

### About Our Makeover

If this issue of the *Journal*, the official publication of the Engineered Wood Technology Association (EWTA), looks a little different, you're right, it is. It's part of a major makeover of the magazine encompassing the entire project—from design and content to printing and advertising sales.

The *Journal*, which since its inception in 1998 was published by an outside agency, is now being produced in-house by EWTA using contracted services. The benefits of this new approach are several, including improved advertiser support through direct contact with EWTA staff, greater flexibility in setting advertising to editorial content ratios, and the potential for increased non-dues revenue in support of EWTA-sponsored research and information transfer activities.

The new look of the magazine is the work of Mike Martin, an award-winning graphic designer and longtime former art director at APA. We think you'll find his design approach more inviting and easier to read. Advertising sales are now handled by Melinda Lilley, who as EWTA's member services director is well-known to exhibitors at the annual EWTA Info Fair, which she also has managed for several years. We believe the synergies of combining Info Fair exhibit space and *Journal* advertising sales will translate to improved service and support for those employing EWTA-sponsored sales and marketing vehicles. And finally, printing and mailing services are now provided by Journal Graphics, a Portland, Ore.-based printing company that specializes in magazines.

On the editorial side, we remain committed to serving as a vital tool for delivering in-depth coverage of trends, issues and developments of strategic importance to the structural wood panel and engineered wood products industry, including processing innovations, research and development, marketing challenges and opportunities, technical developments, codes and standards issues, quality assurance, mill safety and management topics, among others.

To that end, the *Journal* will tap more regularly into the knowledge and experience of industry veterans for insights and perspectives. In this issue, for example, Rick Massey, a former longtime Raute employee, delves into the emergence of cross laminated timber, or CLT, the monolithic engineered wood product that some believe holds promise in the multistory wood construction market.

Also in this issue is a contribution by Dovetail Partners, Inc. on the rise and significance of environmental product declarations, or EPDs. As the article notes, EPDs are gaining an increased "focus of governments and, in some cases, agencies that regulate international trade. It is a situation that warrants immediate attention."

The success of this publication in the past—and of this latest issue under the new publishing regime—could not have been realized, of course, without the support of advertisers. And so we want to acknowledge and thank those companies who purchased space in this inaugural issue of the "new and improved" *Engineered Wood Journal*, despite the difficult economic conditions that still prevail. They are:

Adalis, AkzoNobel Wood Adhesives, Albany International, Altec Integrated Solutions, Arclin, Ashland Performance Materials, BASF, Boise Cascade, Clarke Veneers and Plywood, Clarke's Industries, Corvallis Tool Company, Evergreen Engineering, Geoenergy, Georgia-Pacific Chemicals, GreCon, Grenzebach, Huntsman Polyurethanes, Intertape Polymer Group, Loates & Associates, Momentive Specialty Chemicals, Nordic Engineered Wood, *Panel World*, Paratherm, Raute, Samuel Strapping Systems, Siempelkamp, Spraying Systems, Stantec, Sweed Machinery, Top Wood Jobs, USNR, West Salem Machinery, Willamette Valley Company and Yo Sheng Machine Industrial Corp.

Thanks also are due APA, which as EWTA's parent organization, continues to lend office services and other support to this publishing project.

We welcome and encourage your feedback.



jack.merry@apawood.org

## Energy Code Coalition Formed to Safeguard Wood Industry Interests

APA, the American Wood Council and several wood products industry companies have formed a nonprofit coalition to safeguard the fair and equitable treatment of all building products and systems in the International Energy Conservation Code (IECC) and in state and local energy codes.

Called the Coalition for Fair Energy Codes (CFEC), the organization was established following the IECC Final Action Hearings in October last year, during which measures were adopted that many claim unfairly favor specific product types over others. These measures have the potential to reduce annual demand for structural wood panel wall sheathing by approximately 20 percent, or about one billion square feet in a normal housing year, according to an analysis by APA.

The Coalition has two primary objectives: 1) to ensure that identified priority states adopt energy codes that allow for the continued use of cost-effective building envelope design options that include OSB and plywood sheathing, and 2) to influence development of future energy codes, including the 2015 IECC, to ensure structural wood products and systems are not unfairly disadvantaged in their acceptance and use in the marketplace.

CFEC activities include federal-level lobbying, monitoring and influencing state energy codes and legislation, assembling technical data and information in support of its energy code policy positions, establishing alliances with other industry partners and supporters, and communicating key messages to stakeholders and targeted entities of influence.

For more information about CFEC's mission or to support its efforts, contact CFEC Executive Director Eric Borsting at [cfecinfo@cfec.org](mailto:cfecinfo@cfec.org). More information also can be found at [www.cfec.org](http://www.cfec.org).

## Lumber Check-off Program Set to Launch in 2012

North American manufacturers and importers of softwood lumber voted in June to create a unified softwood lumber check-off promotion program.

The program, which was approved by 67 percent of voters in a referendum conducted by the U.S. Department of Agriculture, will be funded by an initial assessment of 35 cents per thousand. The first 15 million feet of production or sales by importers is exempt. The assessment could be increased later.

"I am gratified and encouraged that this vote demonstrates that softwood lumber manufacturers across North America are committed to working

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progressively together to build a better future for the industry,” said Jack Jordan, chair of the Blue Ribbon Commission for Check-off and executive vice president of Jordan Lumber & Supply, Inc. in North Carolina.

The program, set to begin next year, is expected to generate \$14 million annually for research, marketing and communications. More information can be found at [www.softwoodlumber.org](http://www.softwoodlumber.org).

### House Bill Seeks New Start on Boiler MACT Rules

A bipartisan group of U.S. House Energy and Commerce Committee members introduced a bill in June to delay and amend the Environmental Protection Agency’s (EPA) boiler MACT rules that were released last February.

Called the EPA Regulatory Relief Act, the legislation would give the agency 15 months to propose new regulations that are the “least burdensome” on industry. EPA said at the time the rules were adopted under court order in February that it would reconsider the final standards and seek additional public review and comment. EPA sought to delay implementation of the rules by more than a year so that the agency could review and refine the rules’ requirements, but the court denied that extension.

Under the proposed legislation, companies also would have at least five years instead of three to comply.

### Hatton-Brown Plans New Timber Processing Show

Hatton-Brown Expositions, an affiliate of Hatton-Brown Publishers, Inc., has announced plans to launch a new Timber Processing & Energy Expo Oct. 17-19, 2012 at the Portland Metropolitan Exposition Center in Portland, Ore.

The show will be primarily a wood products machinery event, including the lumber, engineered wood products and panel industries, with complementary support by the energy sector, including



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mill-related wood-based heat energy, the company said. The event also will include seminars covering mill operational issues. Hatton-Brown, a longtime media member of EWTA, publishes *Panel*

*World, Timber Processing* and other forest products industry trade magazines.

More information can be found at [www.timberprocessingandenergyexpo.com](http://www.timberprocessingandenergyexpo.com).

**Updated Product Standard PS 2 Published**

Revisions to *U.S. Product Standard PS 2, Performance Standard for Wood-Based Structural-Use Panels* recently were completed and the updated standard has been republished by the U.S. National Institute of Standards and Technology (NIST).

The amended standard includes new provisions that resolve inconsistencies related to thickness labeling that had existed for years between industry standards and criteria used by weights and measures regulators. Similar provisions also were added to *Voluntary Product Standard PS 1-07* last year.

The revised standard also includes the addition of nonmandatory appendices relating to green building, formaldehyde and the history of PS 2.

APA served as the sponsor and organized the Standing Committee that developed the PS 2 revisions. A copy of the revised standard can be down-loaded from the APA website at [www.apawood.org](http://www.apawood.org).

**FPInnovations Publishes CLT Handbook**

FPInnovations announced recently it has published its first guide to cross laminated timber (CLT) applications. Titled *CLT Handbook*, the guide serves as a reference tool for the residential and nonresidential construction sectors.

Developed in Europe, CLT is gaining popularity in a number of countries, including Canada. Among other characteristics, CLT offers what its advocates say are outstanding structural, thermal, seismic, environmental and acoustic performance. An article on the rise of interest in cross laminated timber is on page 12 in this issue of the *Journal*.

More information on the *CLT Handbook* can be found at [www.fpinnovations.ca](http://www.fpinnovations.ca).

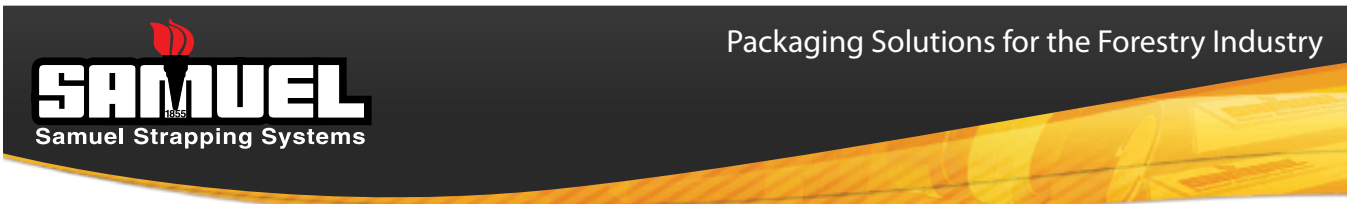
**Wood I-Joists Regain Lost Market Share**

Wood I-joist share of single-family raised floors rose to 52 percent in 2010, up from 45 percent in 2009, which matched the record share achieved in 2008, according to builder surveys conducted by the NAHB Research Center and reported recently by APA.

Lumber joists last year commanded a 31 percent share of the single-family raised floor market while open web wood joists accounted for a 17 percent share.

North American wood I-joist production peaked in 2004 at more than 1.28 billion linear feet. Production last year, by contrast, totaled just 471 million linear feet. However, that was up nearly 24 percent from 2009.

Among all floors, raised floors gained 3.8 percent of market share last year while concrete lost by the same margin, APA reported.



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## In Memoriam

**Charles (Frank) Clark**, 86, co-founder and chairman of the board of Mississippi Laminators, died August 1 in Shubuta, Miss., was a graduate of the University of Alabama and a U.S. Army Air Force World War II Pacific Theater veteran.

**Earl Phillips**, 62, died May 12 in Hot Springs, Ark., a graduate of the University of Arkansas-Monticello, worked for more than 40 years in the forest products industry, most recently as manager of phenolic resins for Hexion Specialty Chemicals (now Momentive), was a past chairman of the Engineered Wood Technology Association (EWTA) Adhesives Subcommittee and was active on numerous standards committees.

**Floyd Vike**, 76, died April 30 in Lake Oswego, Ore., a graduate of the University of Oregon and longtime employee of Willamette Industries, where he retired in 1997 as executive vice president of the company's building materials group, served for several years on the APA Board of Trustees and various APA committees, helped lead APA's entry into the glulam and other engineered wood product sectors.

**Richard (Dick) Anderson**, 89, died in March in Tacoma, Wash., a graduate of the University of Washington, joined APA (then Douglas Fir Plywood Association) in 1950, served 31 years as an APA field representative in various territories and as the coordinator of training meetings for member company personnel, dealer and distributor groups and new APA employees.

**Don Jaenicke**, 81, died in March in Tacoma, Wash., a graduate of the University of Puget Sound, former Weyerhaeuser and APA employee and account executive at Cole & Weber advertising agency, served as the advertising/public relations consultant for the Southern Pine Council from 1984 through 1998.

**Joseph Leitzinger**, 80, of Tacoma, Wash, died January 12, graduated from Penn State and was a civil engineer, joined the Douglas Fir Plywood Association as an engineer before becoming its public affairs executive, became vice president of public affairs at Simpson Timber Company in Seattle in 1972, retired in 1993, served on numerous civic and professional boards, including the Forest History Society and Washington Agriculture and Forestry Education Foundation.



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# CROSS LAMINATED TIMBER

*Conceived in Europe, CLT Is Quickly Gaining Interest in North America*

*by Rick Massey*



PHOTO COURTESY KIER CONTRACTORS

Norwich, England educational facility.

If it were a comic book character, cross laminated timber (CLT) would be “The Hulk”—massive, strong and, yes, even green, given that it imposes a significantly lighter environmental footprint than either concrete or steel, particularly with respect to greenhouse gas emissions and carbon storage.

But CLT is not fantasy. It is an engineered wood product fast gaining recognition in North America, thanks to initiatives by the Canadian Wood Council, FPInnovations, BC Wood WORKS! and APA – The Engineered Wood Association.

Conceived in the 1970s, the Swiss took a closer look at CLT in the early 90s. That was followed by a joint initiative between industry and academia in Austria in 1996 that finally gained recognition of CLT as a highly relevant construction material.

Several factors spurred CLT’s entry into the European construction market. Most prominent was the move toward

“green building,” still a major driver today, together with improved manufacturing efficiencies, code changes and improvements in marketing, promotion and distribution.

Today, there are eight CLT manufacturers in Europe with capacities ranging from 4,000 m<sup>3</sup> to 71,000 m<sup>3</sup>. The main concentration is in Austria, which has four plants. Plants also are planned in Sweden, where one is already operating, and in Australia. Recently, Structurlam began producing CLT at its plant in Penticton, B.C., and another Canadian manufacturer, Nordic Engineered Wood, also has begun producing CLT at its Chibougamau, Quebec, plant. And while there are no producers yet in the United States, there are construction projects already completed and still others planned in which CLT has and will play a leading role. All told, there is around 0.3 million m<sup>3</sup> of CLT in place worldwide with a further 0.6–1.0 million m<sup>3</sup> expected to be in place by 2015.

## Is there a home for CLT in North America?

According to the Canadian Wood Council (CWC), the answer is an emphatic “yes.” In its report *Plan to Accelerate Commercialization and Use of CLT in North America*, March 2010, CWC states: “Not since the introduction of I-joists, some 40 years ago, has a new wood product generated so much interest.” That’s a strong statement considering that the past four decades have witnessed the likes of oriented strand board, laminated veneer lumber and parallel strand lumber, among others.

CLT’s intrinsic attributes are sparking a revitalized interest in the use of wood in construction, according to Mr. Erol Karacabeyli, P.E., manager of building systems at FPInnovations in Vancouver, B.C. In a paper he presented recently at the International Wood Composites Symposium in Seattle, Wash., Mr. Karacabeyli ended his talk on CLT with the view that “We are experiencing a wood renaissance in

construction ..., and CLT will likely play a role.” A powerful statement from an industry expert who has been studying CLT for a decade.

According to Mr. Karacabeyli, CLT differs from other engineered wood products like LVL, PSL and glulam in that it is not sawn into headers and beams, but is used in its massive form as a complete wall, floor or roof element. It thus satisfies the needs of growing ranks of modern-day architects looking to exploit the green properties of wooden buildings and the convenience and cost-effectiveness of large-sized panels that can be used in tilt-up or similar applications.

In Mr. Karacabeyli’s professional view, and in accordance with the research he and his colleagues have undertaken, CLT can compete with concrete and steel in high-end housing, mid- to high-rise residential and commercial structures, and big box buildings in North America. And it is not improbable that we may one day see CLT buildings rise to 20 stories.

### Performance characteristics

In its 2010 publication *Cross Laminated Timber: a Primer, Special Publication 52*, FPInnovations lists an impressive array of CLT benefits. Among them:

**Rapid construction time:** Carpenters aided by cranes achieving outputs of 1,000 – 8,000 ft<sup>2</sup>/day. Advantages are lower erection costs, faster project turn-around and insurance savings due to fast and safe erection. And since the structure is wood based, subsequent trades come to the site sooner and finish faster.

**High dimensional stability:** Precise properties with minimal perpendicular variations due to humidity and negligible parallel variations. Windows, cladding and drywall can be pre-installed; similarly piping, HVAC and electrical.

**Improved safety:** Most work is done in a controlled environment at the plant where the CLT is made.

**Less demand for skilled construction labor:** Erection mostly requires carpentry skills and power tools only.

**Less waste:** Wet trades are eliminated; little waste generated in the erection process.

**Less intrusive:** Less noise associated with construction; overall time at the site is reduced.

The European experience also suggests that CLT provides a sense of “solidness,” with end-users stating that CLT structures have a “substantial” feel—qualities that can be touted in promoting the product.

Seismically, CLT exhibits good energy dissipation due mainly to the mechanical connectors used. Shaking tests on a seven-story CLT structure found it capable of sustaining very strong earthquakes.

CLT also exhibits excellent fire-resistance due to its slow and predictable char rate, although testing did find that the choice of glue used in bonding the product may influence the char rate. And since CLT is a solid member with no concealed spaces, the fire spread risk is reduced.

Acoustically, CLT structures may exceed code requirements for floors and walls, provided certain measures are taken, such as the installation of a self-supporting suspended ceiling with a layer of insulation.

And thermally, CLT is shown to provide thermal mass to a building, improving efficiencies in heating and cooling, values that are enhanced as the thickness of the material increases.

### A complete building system

The European experience also suggests that CLT lends itself to vertical integration, where the producer may provide design and engineering services as well as participating in onsite erection.

CLT’s versatility as a building system lies in the fact that it can be used for all building elements—walls, floors/ceilings—simply by varying the thickness of the panel. It also lends itself to long spans—a 7-ply, 9-inch-thick CLT floor can span 25 feet without support and spans of 65 feet are possible using so-called folded CLT systems.

Installation, too, is relatively uncomplicated. CLT panels are transformed at the plant into building elements, which are numbered and shipped according to an assembly plan. At site, walls are placed on top of a grout bed and foam tape and held in place while ceilings are installed. They are then secured and the next phase of installation begins. This process is repeated until all stories have been installed and the shell is fully erected.

During erection, a tent may be placed over the structure to prevent wetting and to enable work to proceed over multiple shifts. The tent is simply raised as work progresses.



Cladding is required on exterior walls, while interior walls may be drywalled or finished with a stain or other suitable material. CLT also lends itself to hybrid construction, where it is a component used together with concrete, masonry and/or steel.

## Uncomplicated manufacturing

What sets CLT apart from other wood products is its massiveness, achieved by cross laminating sawn softwood lumber or planks (2x4/6 and 1x4/6). Typically, three to seven layers form the required thickness of CLT, which ranges from 2-20 inches (20 inches maximum). Panel sizes are from 16-50 feet long and from 4-10 feet wide. Stability is achieved by placing every other layer perpendicular to those adjacent to it. The layup is then pressed under heat and pressure, nailed together or even joined using dowels. Pressing requires that precise press settings be observed. It is one thing to lose a few sheets of plywood due to a press blow and another matter entirely to lose a single panel that might contain as much as 500 cubic feet of wood!

Getting the product to this point requires adherence to the American Lumber Standard rules for grading and drying. Depending on the point of installation, final moisture content will be 12 percent  $\pm$  2 percent. Proper observance of moisture content prevents dimensional variations and limits surface splitting, important when the surface forms the finished interior of a residence or public building. Some CLT is also produced with a core layer of OSB, plywood or LVL.

Interior/exterior polyurethane glues (formaldehyde and solvent free) are typically used, although melamine-urea-formaldehyde (MUF) and phenol-resorcinol-formaldehyde (PRF) adhesives also can be used. Adhesive may be applied to all edges and faces or simply on the face only of each layer of lumber at the time of layup. After pressing, the panel is planed or sanded.

Quality control is done in-house in accordance with accepted product performance standards for bending/shear strength and delamination. CNC routers cut openings for windows, doors and service channels used for wiring, ducting and connections. Off-cuts may be used for stairs or similar. The ready panel is stored in a dry environment.

Where CLT is used as a solid wall member, the exterior plies are normally oriented with the direction of grain running parallel to vertical loading. Similarly, the exterior plies of CLT floors and roof systems run parallel to the direction of span.

## Certification

Twenty years ago, CLT was a novel European wood product with unknown potential. One can only imagine the reaction from “those in the know” when they first saw the product. Were they taken aback by the amount of wood fiber it consumed? Or did they see the qualities for which CLT has come to be appreciated and acknowledged—that its 100 percent solid wood cross-section is what gives the product its massiveness and strength?

Apparently the latter, since 20 years on we are seeing its introduction in North America and enthusiasm is gaining. Numerous articles have been written about CLT, and FPInnovations recently introduced a *CLT Handbook*, a compre-

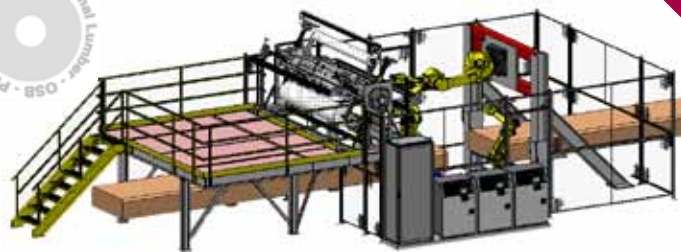
hensive, peer-reviewed technical source for designers.

In many ways the CLT experience has followed the evolution of LVL, I-joists, PSL and even OSB, all highly regarded wood products. The difference is that each of these substituted for, rather than replaced, existing building systems. I-joists, for example, substitute for solid sawn lumber joists, LVL and PSL for solid sawn lumber in long span applications. And OSB has largely supplanted plywood in the sheathing market.

Are we to assume, then, that the same fortune awaits CLT in North America? Probably not, since CLT isn't destined to be the new floor joist, rather it will be the entire floor. Similarly, CLT won't be a supporting roof member, but the roof itself. This suggests that CLT may have stricter performance standards imposed upon it than other engineered wood products. Today's European producers adhere to a proprietary manufacturing approach. European Technical Approval (ETA) reports allow them to make and sell CLT, although there is progress toward developing a European (EN) standard.

In North America, APA is leading the CLT certification process, having taken up the task in early 2011 after FPInnovations suspended its product standard development effort in favor of APA's ANSI standard. As an accredited ANSI standards developer, APA is working to

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put in place national standards that will expedite the acceptance of CLT products in North America.

APA's draft standard for CLT was recently balloted and is expected to be completed by the end of the year. According to Dr. Borjen ("BJ") Yeh, P.E., director of APA's Technical Services Division, a principal objective of the ANSI/APA PRG 320 standard for CLT will be to provide consistent requirements for all CLT manufacturers and certification agencies. The document is being developed with the intention that it will be adopted in the United States and Canada as a harmonized binational standard. Supporting this is the fact that 43 percent of the ANSI Committee voting members are Canadian engineers, manufacturers, associations and researchers.

In developing the PRG 320 standard, Dr. Yeh noted that he and his APA colleagues have taken advantage of the wealth of CLT information available from Europe. This has resulted in the certification process for CLT being shorter than is typical for most new wood products. Dr. Yeh points out that the process also has been fast-tracked in response to the considerable support and enthusiasm of the design community, government, regulatory agencies, researchers and manufacturers.

International certification efforts also have been initiated by a working group under ISO Technical Committee (TC) 165 on Timber Structures, with the intention of drafting an international CLT standard that will harmonize the European and North American standards. Experts and interested parties from the United States, Canada, Europe and Asia are part of the ISO TC 165 working group. 

### For More Information on CLT

[www.apawood.org](http://www.apawood.org)  
[www.constructioncanada.net](http://www.constructioncanada.net)  
[www.cwc.ca](http://www.cwc.ca)  
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*Rick Massey, formerly with Raute, is a contributing writer to the Engineered Wood Journal and other industry trade publications. He can be reached at [rickmassey@shaw.ca](mailto:rickmassey@shaw.ca).*

# MEETING GRAS

*APA Annual Meeting and Info Fair Set for The Big Easy*



As the program announcement puts it, where better for this year's APA annual meeting and Info Fair supplier exhibition than New Orleans, Louisiana—a fitting location to “sing the blues” about the continuing housing market slump, but also a perfect symbol of the spirit of rejuvenation and rebuilding?

This year's meeting will be held Oct. 22-25 at The Roosevelt Hotel New Orleans, of the famed Waldorf Astoria Collection, just one block from historic Bourbon Street in the heart of the French Quarter, and with convenient access to the Canal Streetcar Line and Mississippi River attractions.

If The Big Easy itself isn't enough of an attraction, the meeting program surely is. On the agenda: celebrated political analyst and keynote speaker Mary Matalin; roundtable discussions on accessing

international markets, industry activities in the green building arena, and making the most of APA's website and product support help desk; an update on industry efforts to advance cost-effective and product-neutral energy codes; the latest APA market forecast; and business meetings of the Glulam and I-Joist Management Committees and Engineered Wood Technology Association (EWTA) Advisory Committee and Adhesives Subcommittee.

And that's just for starters. Also featured will be APA Chairman Jeff Wagner and APA President Dennis Hardman on the state, priorities and activities of the Association; the annual Info Fair supplier exhibition (see list of exhibitors pages 19-23); an all-day Safety and Health Workshop (see sidebar story next page); golf and tennis tournaments; a sport shooting event; evening receptions; spouses' program and lunch, and the Chairman's Dinner, with recognition of the latest APA mill and company safety award program winners.



Mary Matalin  
Keynote Speaker



Jeff Wagner  
APA Chairman



Dennis Hardman  
APA President

General session keynote speaker Mary Matalin is a national political veteran and analyst who is sure to bring keen observations and insights on the 2012 presidential and congressional elections. Matalin served as deputy campaign manager for President George H. W. Bush's 1992 re-election bid and was later assistant to President George W. Bush and counselor to Vice President Dick Cheney.

She is currently a political contributor for CNN, co-hosts the nationally syndicated “Both Sides Now” radio program with Arianna Huffington, and runs Threshold, a conservative publishing division of Simon & Schuster.

The general session is scheduled for Monday morning, Oct. 24. See the Schedule of Events on page 18 for a complete meeting agenda.

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## Roundtable Review


### How to access international markets

APA International Marketing Division Director Charles Barnes, Vice President and Secretary Ed Elias and Quality Services Director Steve Zylkowski will provide an overview of international market opportunities and lead a discussion on how to attain certification and access to targeted markets around the world. They also will give an update on market activity in Japan in the wake of the March 2011 earthquake and tsunami.

### Making APA's website and help desk work for you

APA Web Coordinator LaDauna Wilson will provide a hands-on tour of APA's family of websites and demonstrate how APA and EWTA members and other industry stakeholders can optimize the value of the Association's vast online information program. APA Technical Services Director B.J. Yeh will then also review and explain APA's Product Support Help Desk, another valuable member services tool.

### Industry actions related to green building

Vicki Worden, president of Worden Associates and coordinator of the Green Building Strategy Group (GBSG), will review recent activities of the group's four core committees—Research/Technology Transfer, Codes and Standards, Policy/Advocacy, and Marketing Communications. And Mike Ritter, assistant director of the U.S. Forest Products Laboratory and chairman of the GBSG Research/Technology Transfer Committee, will provide an update on the committee's work to inventory and coordinate life cycle assessment activities related to wood products. GBSG is a coalition of organizations, companies and government agencies working to facilitate increased coordination and communication of green building efforts. 

## Marketing Advisory Committee Meeting

The Marketing Advisory Committee meeting will feature guest speaker Elizabeth Odina, federal legislative director for the National Association of Home Builders. She will review NAHB's political agenda and the work being done on Capitol Hill to influence energy and building codes. In other presentations, U.S. Forest Products Laboratory Assis-

tant Director Mike Ritter will provide an update on cooperative industry research initiatives and U.S. WoodWorks Program Director Kelly McCloskey will report on WoodWorks. Also scheduled are a new market forecast by APA Market Research Director Craig Adair and staff reports on the Association's market support and development activities.

## Safety and Health

### OSHA Emphasis Programs, Industrial Health Exposure Issues, Preventing Soft Tissue Injuries on Workshop Agenda

An all-day APA Safety and Health Workshop has once again been scheduled as an adjunct to this year's annual meeting.

Organized by APA's Safety and Health Advisory Committee, the workshop is designed for all levels of personnel with mill safety responsibilities. It will be held on Tuesday, Oct. 25, the day after the safety awards presentation at the Chairman's Dinner on Monday night, thereby providing a double attraction and condensed schedule for mill personnel with limited available time away from their facilities.

#### Topics and speakers include:

- OSHA Emphasis Programs and Hot Topics, Alexander G. Novas, Compliance Assistance Specialist, U.S. Department of Labor/OSHA
- Beyond Compliance: Addressing the Human Factor, Gary Higbee, Certified Safety Professional, Safestart, A Division of Electrolab Ltd.
- Innovation in Safety Award Winner/The STARS Card Program, Lea Hawkins, Safety Manager, Camden, Texas plywood mill, Georgia-Pacific Wood Products LLC
- Industrial Hygiene Exposure Risks, Rand Duhé, Industrial Hygiene Team Leader, Huntsman International
- Best Practices Roundtable Discussion, Keith Harned, LP, APA Safety and Health Advisory Committee Chairman

APA Safety and Health Advisory Committee members are Keith Harned, chairman, LP; Tom Blake, Ainsworth Lumber Co. Ltd.; Chris Lawrence, Swanson Group Mfg. LLC; Dwight Midles, Olympic Panel Products LLC; Bill Sanders, Boise Cascade LLC; Randy Schillinger, Pacific Woodtech Corp.; Terry Secrest, RoyOMartin; Milton Steinberg, Georgia-Pacific Wood Products LLC; Jason Teall, Stark Truss Company Inc.; Peter Quosai, Norbord Incorporated; Mike Wacker, Plum Creek; and Pat Wright, Roseburg Forest Products.

The workshop is part of the committee's overall effort to elevate mill safety as an industry priority. It is open to both APA and Engineered Wood Technology Association members.

# Schedule of Events

## SATURDAY, OCT. 22

10 am – 5:30 pm	APA Registration Desk Open
10:30 am – noon	<b>EWTA Adhesives Subcommittee</b>
2 – 3 pm	<b>EWTA Exhibitor Connections Meeting</b>
1 – 3 pm	<b>Glulam Management Committee</b> (committee members only)
3 – 5 pm	<b>I-joist Management Committee</b> (committee members only)
3 – 5 pm	<b>EWTA Advisory Committee</b>
5:30 – 7 pm	EWTA Reception

## SUNDAY, OCT. 23

8 am – 1 pm	<b>Golf Tournament</b>
9 – 11 am	<b>Tennis Tournament</b>
9 am – noon	<b>Cripple Coot Shoot</b>
11 am – 5:30 pm	APA Registration Desk open
5 – 7:30 pm	<b>Info Fair and Reception</b>

## MONDAY, OCT. 24

7 – 8:30 am	Buffet Breakfast
8 am – 5 pm	Registration Desk Open
8:30 – 10:15 am	<b>General Session</b> Jeff Wagner, APA Chairman Guest Speaker: Mary Matalin, Political Analyst Dennis Hardman, APA President
10:30 – 11:15 am	<b>Roundtable Session 1</b>
11:20 am – 12:05 pm	<b>Roundtable Session 2</b>
10:30 am – 3:30 pm	Spouses' tour to Houmas House Plantation
Noon – 1:30 pm	Buffet lunch and Info Fair
2 – 5 pm	<b>Marketing Advisory Committee</b> Guest Speakers: Elizabeth Odina, National Association of Home Builders Mike Ritter, U.S. Forest Products Laboratory Kelly McCloskey, WoodWorks
5:30 – 7 pm	<b>Info Fair and Reception</b>
7 pm	<b>Chairman's Dinner and Safety Award Recognition</b>

## TUESDAY, OCT. 25

6:30 am	Board of Trustees Breakfast (APA trustees and invited guests)
7:30 am – noon	<b>APA Board of Trustees</b> (APA trustees and invited guests)
8:30 am – 4 pm	<b>Safety and Health Workshop</b>

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# 2011 INFO FAIR EXHIBITORS

**INFO FAIR**, held annually in conjunction with the APA annual meeting, is sponsored by the Engineered Wood Technology Association (EWTA), APA's related nonprofit supplier organization. Meeting and event sponsors are highlighted.

The **2011 EXHIBIT FLOOR PLAN** with booth numbers is shown on page 21.

## AKZONOBEL WOOD ADHESIVES

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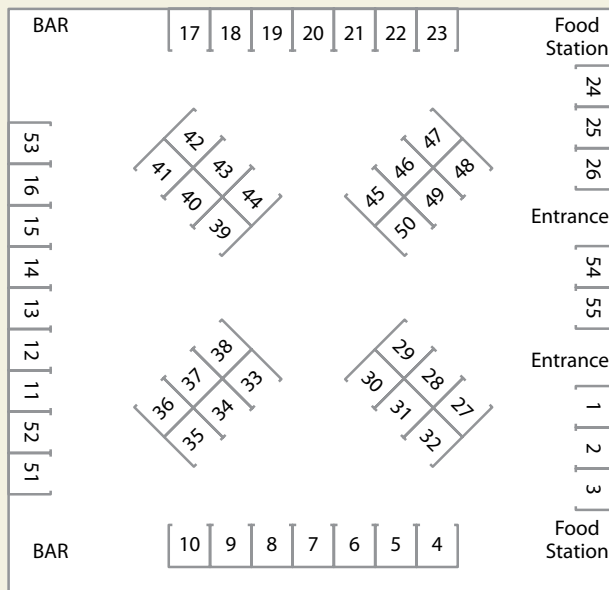
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The Forest Products Laboratory (FPL) is the national research laboratory of the United States Forest Service, which is part of USDA. Since its opening in 1910, the FPL has provided scientific research on wood, wood products and their commercial uses in partnership with academia, industry, tribal, state, local and other government agencies. The focus of the Forest Products Laboratory is to promote healthy forests and forest-based economies through the efficient, sustainable use of the nation's wood resources.

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# SERVICE STARS

*Congratulations to EWTA 2011 Supplier and Innovation Award Winners*




Ventek, Inc., Willamette Valley Company, Momentive Specialty Chemicals, Inc. and Adalis Corporation have earned Supplier of the Year Awards, and Momentive Specialty Chemicals also was selected winner of the Innovation of the Year Award in the latest annual Supplier Awards Program sponsored by the Engineered Wood Technology Association (EWTA).

The supplier awards are based on quality, service and delivery to APA member mills. The winners were selected by votes of APA mill managers. Ventek won the award in the equipment and tooling category, Willamette Valley Company and Momentive Specialty Chemicals tied for top honors in the materials and supplies category, and Adalis earned the award among consulting and services companies.

Other EWTA members receiving supplier award votes were Acme Packaging; Airstar, Inc.; ALTEC Integrated Solutions; Ashland Performance Materials; BASF Corporation; CARMANAH Design & Manufacturing; Evergreen Engineering, Inc.; Georgia-Pacific Chemicals LLC; GreCon Inc.; Hinz, A Rockwell Automation Company; Huntsman Polyurethanes; Kimwood Corporation; KTC Panelboard Engineering; Metriguard, Inc.; Pacific Fluid Systems; *Panel World* Magazine; Samuel Strapping Systems; Siempelkamp LP; Spar-Tek Industries, Inc.; TurboSonic Technologies Inc.; Union Pacific Railroad; and Valspar Corporation.

The Innovation Award recognizes a new technology or product that has been in use for at least six months and has been shown to provide a substantial benefit to the users' bottom lines. Momentive Specialty Chemicals earned the top innovation honor by vote of APA members for its Primax OSB surface resin. Runners-up for the award were Altec Integrated Solutions Ltd., for its electric actuator system for veneer lathes; USNR, for its ADEC (automatic dryer exhaust control) System; and Momentive Specialty Chemicals, for its flow modifier technology for plywood. All Innovation Award entry submissions can be found in the Supplier Awards section of the EWTA website at [www.engineeredwood.org](http://www.engineeredwood.org).

The awards program was launched several years ago to elevate recognition of EWTA members providing superior service and/or products to APA members. The Innovation Award was added to the program last year. The program is administered by an EWTA Awards Program Subcommittee comprised of Kelly Robinson of Plum Creek, chairman; Rodney Schwartz, MEGTEC Systems; Reneé Wilson, Adalis Corporation; Dave Gagnon, Samuel Strapping Systems; Stephen Blackwelder, Hunt Guillot & Associates; and Cole Martin, Dieffenbacher.

This year's award winners will be recognized Oct. 24. during the APA annual meeting at The Roosevelt Hotel New Orleans in New Orleans, La. 

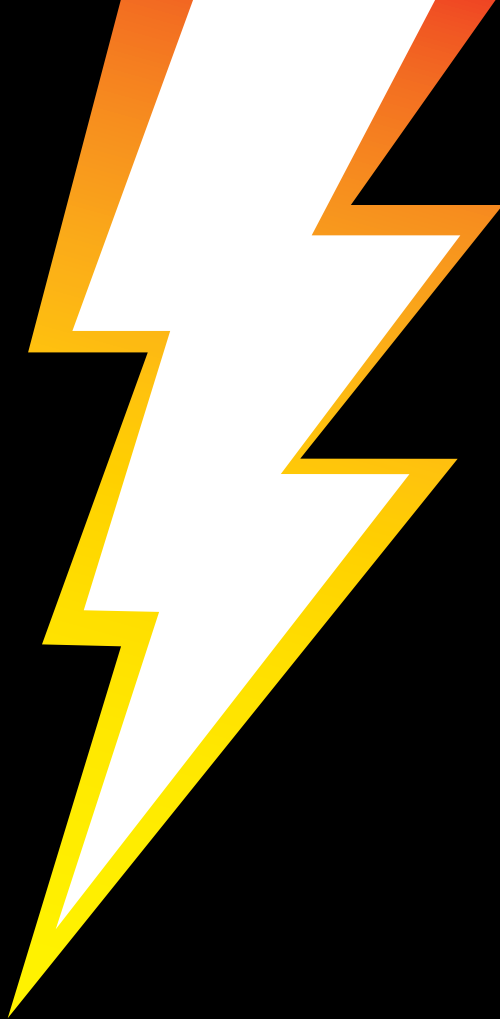
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*From the Award Entry Submission*

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# GREEN CLAIMS

## *The Rise and Significance of Environmental Product Declarations*

**Editor's Note:** *The following article was prepared by and is reprinted here with the permission of Dovetail Partners, Inc. (www.dovetailinc.org), the Minneapolis-based nonprofit that provides authoritative information about the impacts and trade-offs of environmental decisions, including consumption choices, land use and policy alternatives. The article was co-authored by Jim Bowyer, Jeff Howe, Kathryn Fernholz, Steve Bratkovich and Sarah Stai. Dovetail Partners can be reached at info@dovetailinc.org.*

The private sector in the United States tends to pay less attention to environmental initiatives than its counterpart in Europe. It may, then, come as a surprise to many U.S. manufacturers that international protocols for science-based environmental labeling of products are well advanced. The near-term likelihood of requirements for environmental labeling of exported products may also be surprising. Central to recent developments is something known as Environmental Product Declarations, or EPDs—the increasing focus of governments and, in some cases, agencies that regulate international trade. It is a situation that warrants immediate attention.

An Environmental Product Declaration, or EPD, is a standardized report of environmental impacts linked to a

product or service. An EPD is based on life cycle assessment, which provides a basis for comparing environmental performance and substantiating marketing claims. Until recently, EPD development was limited to organizations associated with the 14000 series of standards within the International Organization for Standardization (ISO) and the government agencies of several European countries. Now, the EPD concept is moving rapidly into the mainstream. As described recently by a leading authority on environmental labels and declarations, “The use of environmental product declarations is sweeping the globe and will create a legal barrier to trade unless the U.S. develops its own EPD structure” (Schenck 2009).

The EPD concept grew out of development of ISO standards focused on environmental management, life cycle assessment and environmental labels and declarations. Environmental life cycle assessment, or LCA, provides a mechanism for systematically evaluating the environmental impacts linked to a product or process and for guiding process or product improvement efforts. Though governed by international protocols that guide how they are conducted, LCAs of different products may use different boundaries (i.e., may or may not include key steps in raw material procurement, product use, or end-of-life disposal), making comparisons of results diffi-

cult. ISO has addressed this problem by requiring that EPDs be based on a set of Product Category Rules that specify the parameters to be considered for a given family of products.

This article discusses EPDs and guidelines for their development and examines global and national developments that point toward greater use of this tool within the near future. Beneficial aspects of the EPD development process are also considered.

### **EPDs: what, why and how**

As noted earlier, an EPD is a standardized report of environmental impacts linked to a product or service. To expand upon this definition, an EPD can be more explicitly described as *a standardized, third-party verified, and LCA-based label that communicates the environmental performance of a product and that is applicable worldwide*. In ISO terminology, an EPD is a Type III environmental declaration.<sup>(1)</sup> An EPD includes information about both product attributes and production impacts (see accompanying table) and provides consistent and comparable information to industrial customers and end-use consumers regarding environmental impacts. The nature of EPDs also allows summation of environmental impacts along a product's supply chain—a powerful feature that greatly enhances the utility of LCA-based information.

### **Examples of Information Contained Within an EPD**

#### **Production Impacts**

Resource depletion  
Energy consumption  
Global warming potential  
Water consumption  
Emissions to air and water  
Waste generation

Acidification  
Eutrophication  
Ozone depletion potential  
Photochemical oxidant production  
Respiratory effects  
Smog production potential

#### **Product Attributes**

Material content  
Recycled content  
Emissions  
Toxicity  
Service life

The background of the advertisement is a detailed photograph of industrial machinery, likely used in wood processing. It shows various components such as rollers, bearings, and metal plates, with a color palette of blues, greys, and metallic tones.

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Product declarations follow a standardized format and include a statement regarding life cycle stages considered, and sections describing the process, the product, and environmental impacts as determined by ISO-compliant LCAs. The LCAs, in turn, are prepared in accordance with a set of Product Category Rules (PCRs) that govern development of EPDs for groups of products that can fulfill equivalent functions (Schenck 2009).

## Why EPDs?

Today there are hundreds of labels intended to signify environmental attributes of various products. Many of these labels focus on one or two product attributes. Others are more comprehensive but lack commonality in scope or evaluation methods to allow straightforward comparisons of products. Some have no science behind them at all.

For purposes of evaluating environmental impacts of products, the Product Category Rules associated with EPDs ensure that life cycle assessments are conducted in such a way as to yield a fair (apples to apples) comparison; a key requirement is that products compared serve equivalent functions. Thus, presentation of LCA results in ISO-compliant EPDs greatly increases the usefulness of LCA results.<sup>(2)</sup>

It should be noted that information contained in EPDs is both quantifiable and verifiable. Social- and landscape-level impacts for which assessment is largely subjective are not reported in an EPD, meaning that EPDs remain only one of several reporting mechanisms for conveying environmental and social impacts. Product certification, such as forest

and wood products certifications, will continue to serve an important function as EPDs come into common use.

## Essential steps in preparing an EPD

A key decision in preparing an EPD is selecting which organization will play the lead role.<sup>(3)</sup> For products that are quite similar across an industry or industry sector, as in the case of commodities, the EPD is commonly prepared under the auspices of a trade or technical association. However, a single manufacturer may take on the task if products are unique or if environmental impacts linked to a business are believed to be significantly less than the industry average.

The first step in preparing an EPD is development, in accordance with ISO 14025 (or with ISO 21930 if building products are involved), of a set of specific rules, requirements, and guidelines for conducting LCAs and producing and presenting data, for one or more product categories; these are known as Product Category Rules (PCRs). A PCR specifies allocation rules for products and coproducts in the life cycle inventory aspect of an LCA, defines materials and substances and impact categories that must be reported, and establishes a time frame for data validity.

Because PCRs establish rules that apply to manufacturers of an entire product category, they must be developed in consultation with a wide range of stakeholders. Additionally, EPDs must be developed under the guidance of a Program Operator, an organization that coordinates engagement of stakeholders and ensures adherence to ISO standards and transparency requirements. Third-

party review of the final draft of the rules by stakeholder groups or by a designated review panel is also required. It is important to note that PCRs and associated LCAs need not be prepared from scratch, but instead should be based on previously completed PCRs and LCAs for similar industries nationally or globally. In any event, given the inclusive, deliberative nature of the process, the development of PCRs can be time consuming, a reality that should be considered in planning for preparation of an EPD.

The second step in preparing an EPD is conducting a full life cycle assessment according to the rules, boundaries and reporting requirements specified in the PCR and in ISO standards 14040 and 14044. The assessment may be conducted internally or by a third-party practitioner, but regardless must be independently or third-party verified for a business-to-consumer EPD, with verification recommended for a business-to-business EPD.

Environmental life cycle analysis provides a mechanism for systematically evaluating the environmental impacts linked to a product or process and for guiding process or product improvement efforts. LCA-based information also provides insights into the environmental impacts of raw material and product choices as well as maintenance and end-of-product-life strategies. Because of the systematic nature of LCA and its power as an evaluative tool, the use of LCA is increasing as environmental performance becomes more important in society. It is likely that LCA will soon become widely used within American industry and by those involved in crafting national and regional environmental policy.

### FOOTNOTES:

(1) Type I declarations are used to designate environmentally preferable products with respect to one or more product attributes and involve verification by a third party; Type II declarations are self-declarations by product manufacturers; and Type III declarations are third-party verified and based on full life cycle assessment performed in accordance with international protocols.

(2) Several industry-specific computer models, such as the Athena Eco-Calculator, play a similar role in that they are developed using consistent rules governing scope, inclusiveness, and calculation methods.

(3) As explained in subsequent paragraphs, this role must be fulfilled by a Program Operator.

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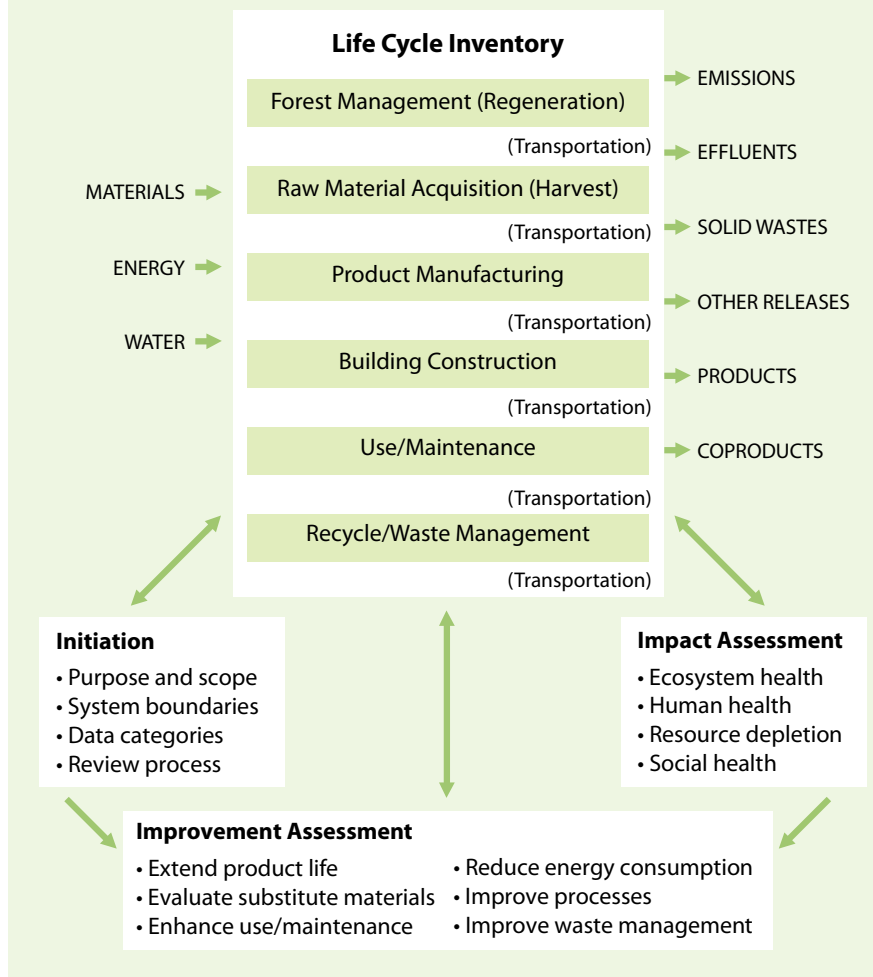
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The first step in an LCA is development of a Life Cycle Inventory (see accompanying figure). The LCI involves a careful accounting of all the measurable raw material inputs (including energy), product and coproduct outputs, and emissions to air, water and land. Examination of energy use is particularly

revealing, since a number of serious environmental problems are related to consumption of energy, including acid deposition, oil spills, air pollution (SO<sub>2</sub>, NO<sub>x</sub>), and increasing concentrations of atmospheric carbon dioxide. A LCI may deal with product manufacture only, in which case it is called an Information

Module, or the study boundaries may be defined more broadly to include product use, maintenance and disposal. The PCR defines study boundaries for the product category involved and defines materials and substances and impact categories that must be reported. In the Impact Assessment stage of the LCA, inventory data is assessed to determine environmental impacts, such as effects of an industrial activity on the atmosphere (global warming potential, ozone depletion potential), water (eutrophication), or on landscape, flora, or fauna.

## A Schematic of a Life Cycle Analysis for a Wood-Based Building Material



## A schematic of a life cycle analysis for a wood-based building material

As recently indicated by FPInnovations (2009), EPDs are usually structured according to a common layout and divided into separate parts, including program-related information, product-related information, LCA and other environmental information and mandatory statements.

## Drivers of EPDs in the marketplace

As outlined by EurActiv (2010), attention to systematic assessment of the environmental impact of products throughout their whole life cycle began to receive attention in the late 1990s. EPDs were brought into focus in 2002 with commissioning of a study by the European Union Director General for Environment to document and evaluate national and sectoral EPD initiatives (Bogeskär et al. 2002). Spurred by the launch of a European platform on use of life cycle assessment in 2005, the development and use of EPDs has been growing slowly within the European community for a number of years, with Sweden leading

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the way. In recent years, however, activity has expanded significantly. An example is work by the German Institute for Construction and the Environment (IBU) to develop building product EPDs for use in Germany and the European Union. As reported by Tobias (2010), to date the IBU has developed EPDs for a number of product categories, including floor coverings, roofing, insulation materials, wood products and more (<http://bau-umwelt.de/hp549/Wodden-materials.htm>).

Tobias also notes that new EU regulations have been proposed that would mandate the use of EPDs in the construction industry. France went a step further, announcing in 2009 that all large volume consumer products sold in that country after January 2011 must be accompanied by an EPD designed in accordance with the French standardization body AFNOR (Schenck 2009). The French government recently rescinded that deadline, taking the matter under study. Nonetheless it is widely speculated that all EU countries may soon adopt EPD requirements.

There is some concern that EPD requirements in the EU could soon become legal non-tariff barriers to trade for nations and companies that are not prepared. Trusty (2010) has noted that the forest products sector in the United States is currently not ready for the changes that are coming and that EPDs may soon come to the fore in the U.S. He indicated that the American Society for Testing of Materials (ASTM) Committee E-60 would soon issue Product Category Rules for building products and that ongoing discussions within the U.S. Environmental Protection Agency (EPA)

and elsewhere suggest that government procurement policies in the U.S. could soon favor products accompanied by EPDs. Recent EPA webinars and workshops on this topic (Costello and Schenck 2009, Winters 2010) clearly point in this direction.


## Sources of information and assistance

There are a number of sources of information regarding EPD development that can aid in getting started. Among these are the International Organization for Standardization, the Global Environmental Declarations Network, FPInnovations-Forintek Division, Green Standard, and the International EPD System. In addition, helpful background material is available from the FairRidge Group (2009), Folvik and Wærp (2008), Tardif (2009), O'Connor (2009), the Athena Sustainable Materials Institute (2010) and the Swedish Environmental Management Council (2000, 2004).

## Summary

Environmental Product Declarations are beginning to be required by governments as part of trade and purchasing program requirements. Activity is currently concentrated in the EU and parts of Asia, especially Japan, but EPDs are receiving considerable attention in the international community. While there are indications that EPDs are gaining recognition in the US, a general lack of attention to environmental reporting, LCA, and related tools such as EPDs have raised concerns that unprepared firms and industry sectors may soon face legal

non-tariff barriers to trade in attempting to export to the EU and elsewhere. The U.S. forest products sector is seen as particularly unprepared.

Requirements governing the preparation of EPDs are strict. The process includes development of Product Category Rules for products serving equivalent functions. The preparation of EPDs also necessitates inclusive, open, deliberative involvement of a wide variety of stakeholders. In addition, an EPD is based on systematic life cycle assessment of environmental impacts linked to a product, a pursuit that can be both costly and time consuming. As a result, development of EPDs requires careful advance planning, consultation, attention to detail, and a significant investment of time. If your business isn't ready, now is the time to get started! 

**Editor's Note:** *Several North American organizations, including the American Wood Council (AWC) in the U.S. and FPInnovations in Canada, are working to develop the information and processes required to provide environmental product declarations for structural wood products. APA, whose members have a vital stake in the sustainability, green building and environmental policy arenas, is a party to EPD development efforts through its affiliations and working relationships with numerous industry organizations and government entities, including AWC, the U.S. Forest Products Laboratory, CORRIM (Consortium for Research on Renewable Industrial Materials), Green Building Strategy Group and others.*

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# JOINT VENTURE

*Seattle Event Combines Wood Composites and Veneer Processing Symposia*

*by Jack Merry*



**J**t hasn't been determined yet whether the Joint International Symposium on Wood Composites & Veneer Processing and Products, held for the first time last spring, will be repeated as a combined industry event. But the three-day gathering in Seattle certainly proved itself a viable forum for review and discussion of industry trends, issues, challenges and developments.

Approximately 200 attendees from 16 countries were drawn to the conference, which combined the longstanding International Wood Composites Symposium sponsored by Washington State University's Composite Materials & Engineering Center (CMEC) and the biannual International Symposium on Veneer Processing and Products that since 2004 had been held in France, China and Finland. Also sponsoring the latest event were APA and FPInnovations.

"Our goal is to maintain the symposium as an industry-driven conference rather than a purely scientific one that attracts only researchers," said Vikram Yadama of WSU's CMEC in explaining the purpose of combining the two symposia and the sponsorship roles of APA and FPInnovations. APA helped

recruit attendees from among its North American members while its related supplier organization, the Engineered Wood Technology Association (EWTA), also assisted in soliciting sponsorships from among its members. EWTA member company sponsors included Huntsman Polyurethanes, GreCon, Dieffenbacher, Pallman America, Momentive Specialty Chemicals, Arclin, Flamex, Willamette Valley Company, Siempelkamp, Electronic Wood Systems, USNR, Georgia Pacific Chemicals, Metriguard and Samuel Strapping Systems. Other sponsors included Chem-Trend (a new EWTA member), Scheuch and MoistTech.

Plans for next year's event, including possible co-sponsors or organizers, are still in development. Robert Tichy, also of WSU's CMEC, said he strongly supports broadening the range of products and topics covered and ongoing efforts to attract a larger and more diverse attendance. He noted that adhesives technology and bioenergy, biofuels, coproducts from woody biomass and integrated technologies are likely to command greater attention at future symposia. The results of an attendee survey are being used to help plan future events.

Held along the city's waterfront at the Edgewater Hotel and Bell Harbor International Conference Center, the Seattle event, featured 38 major presentations, including six keynote addresses. Those headliners and their topics were RISI Economist Bernard Fuller, on the outlook for global panel industry recovery; APA Market Research Director Craig Adair, on the major markets for North American wood products; Weyerhaeuser Company Senior Vice President Miles Drake, on options for forest products diversification; FPInnovations Vice President Alan Potter, on future trends in forest products research and development; Nelson Pine Industries Managing Director Murray Sturgeon, on innovative applications of laminated veneer lumber; and American Softwoods China Office Director Xu Fang, on codes and standards affecting wood product use in China.

The second day was devoted to technical topics under two concurrent tracks—one devoted to wood composite materials, the other to veneer-based products. The final day featured presentations on sustainability, environmental issues and regulatory challenges. Among those speakers were APA Product

## KEYNOTE SPEAKERS



Bernard Fuller  
RISI



Craig Adair  
APA




Miles Drake  
WEYERHAEUSER COMPANY

Evaluation Manager Tom Skaggs, on the impact of building code changes on the wood structural panel wall sheathing market; American Chemistry Council Senior Director David Fischer, on the work of ACC's formaldehyde panel; FPInnovations Building Systems Department Manager Erol Karacabeyli, on the rise of cross laminated timber (CLT) for multi-story wood construction; and FPInnovations Energy and Environment Group Leader Jennifer O'Connor, on the emergence of environmental product declarations. (The latter two topics are the subjects of feature articles in this issue of the *Journal*.) Nearly 20 poster sessions also were part of the program.



Vikram Yadama (left) and Robert Tichy, of WSU's Composite Materials Engineering Center

In addition to Yadama and Tichy, the Symposium Organizing Committee was comprised of APA Quality Services Division Director Steve Zylkowski, Karl Englund of CMEC, Chunping Dai of FPInnovations, Remy Marchal of Arts & Metiers ParisTech, and Matti Kairi of Technical University of Helsinki.

Information on future symposia will be posted on the CMEC website at [www.cmec.wsu.edu](http://www.cmec.wsu.edu). 

*Jack Merry (jack.merry@apawood.org) is editor and publisher of the Journal.*



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# TECHNOLOGY TRANSFER

*A Look at the R&D Priorities of the Wood-Based Composites Center*

*by Linda C. Caudill*

What do the Argonne National Laboratory, walnuts and a rotary-drum blender have in common? They are all tools being used by the Wood-Based Composites Center (WBC) to conduct research, ultimately benefiting its members.

With eight projects currently underway at four universities, the WBC continues to impact the research and knowledge needs of the industry, and as a newly organized National Science Foundation (NSF) Industry/University Cooperative Research Center (I/UCRC), the WBC has placed its industry members firmly at the center of industry advancement. As such, WBC members are involved in developing research agendas, funding decisions and guiding the research that influences the future of the industry. Membership in the WBC guarantees rights to all center-developed intellectual property, and the organizational fees are leveraged toward an effort greater than any single company could achieve.

Georgia-Pacific Chemicals, a founding WBC member, believes these changes help focus the organization to provide new levels of industry impact, especially during challenging economic times. "Participation in the WBC I/UCRC is an outstanding way to leverage R&D funding to tap into the knowledge and expertise at the leading universities for wood science in North America. The value to us is being able to select the research, having access to the results and IP associated with the research, interacting with faculty and students, and working with other industry leaders," said Ashlee Cribb, business manager at Georgia-Pacific Chemicals and current chair of the Executive Committee of the WBC's Industry Advisory Board.

"We are proud of our 11 prior years of industry service," added Chip Frazier, professor at Virginia Tech University and director of the Center. "But I don't mind saying that we are much better now. The new I/UCRC format represents a major reinvention, because now our members directly control and manage the research. Our industrial relevance is vastly improved."

## **Beam-time, baby**

Fundamental knowledge remains a mainstay of the WBC research agenda. For instance, using high-intensity x-ray beam sources at the Argonne and Berkeley National Laboratories, researchers at Oregon State University are using microtomography to create three-dimensional images of adhesive bond microstructure. By understanding the penetration and bonding characteristics of different resins, research being conducted by Professor Fred Kamke will give WBC members the knowledge to help improve their products through enhanced resin technology. "This is cutting edge research, with direct application to adhesive suppliers and composite manufacturers," said Professor Kamke. "And insight from our industry partners has pushed us much further ahead than we would have been on our own."

"These are the types of big questions that are very important to our industry," adds George Hesper, technical director for product development with Henkel. "Most companies don't have the specialized skills or the resources to answer the questions. In the case of the WBC, having industry work so closely with academia ensures that the project results have applicability to our most important commercial problems."

Another relevant topic is formaldehyde emission regulations, and the pending national legislation that builds on California Air Resources Board (CARB) Phase 2. The new emission limits are low, with some approaching the levels of natural-wood emissions. Professor Barbara Cole at the University of Maine, along with graduate student Sara Knowles, are working toward a better understanding of natural formaldehyde emissions from wood and how various processes influence emissions.

"The industry has stepped up to the formaldehyde challenge and has been very successful in developing and implementing low emitting technologies to address the stricter CARB standards," said Carlos Nuila, vice president of technology at Momentive. "Fundamental understanding of natural-wood emissions will help guide continuing efforts in this area. This is a critical issue and it is satisfying to see member companies and partner universities coalesce in support of these efforts."

## **How applied is this research?**

All WBC research is fundamental, but some projects have a near-term focus. For example, rotary-drum blending is the focus of one project at the University of British Columbia, where Professor Greg Smith is studying the effects of equipment and process variables on blending quality. According to research and development leader Jack Winterowd of Weyerhaeuser, this is of particular interest to their organization. "We suspect that an improved blending technology would yield meaningful cost reductions for OSB manufacturers," said Winterowd. "Weyerhaeuser is excited about Professor Smith's work in this area and looks forward to the outcome of the project."

Non-structural panel producers claim an even greater need for improved resin efficiency. In a separate study, OSU and UBC faculty are considering process and equipment variables specific to the manufacture of particleboard and medium density fiberboard.

Of particular interest to WBC member Willamette Valley Co. is the influence of walnut-shell and other natural filler particle size on resin penetration and performance. "We could not conduct this research in our own laboratories due to equipment and time constraints," said Phil Cote, director of research and development for Willamette Valley Co. "By working with faculty, graduate students and WBC industry members we have developed new ideas and useful collaborations through this project. We are confident that the research findings will help Willamette Valley Co. develop both new and improved products for our customers and markets."

When Virginia Tech graduate student Xing Yang struggled with classifying filler particles, he was invited to Willamette Valley's research facility in Eugene, Ore., where he learned the method from scientists in their laboratory. A second stop at Momentive's laboratory in Springfield, Ore. gave the student additional exposure to WBC member businesses. "It was extremely gratifying to see how two members, Willamette Valley and Momentive, were so willing to host my graduate student, taking the time to help and teach him," said Frazier. "Through my student, they taught me critical information about how wheat flour digestion impacts veneer bonding. The Center's new format better promotes this type of interaction, and all of our members are equally willing and eager to directly impact the student's work."

**Can't afford to invest in research right now? Think again.**

The wood products industry has been hit hard by the recession. Many have reduced or eliminated research funding, but the WBC offers an economical way to access cutting edge science and technolo-

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gy. Leveraging is the key – NSF I/UCRCs typically leverage a member's contribution 7-to-1. For instance, the 50-plus NSF I/UCRCs across the U.S. may compete for additional NSF funds. WBC members directed faculty to enter this competition, and benefited as a result with a grant for \$200,000 toward the formaldehyde emissions project mentioned above. "That is two-hundred thousand additional dollars secured for our member's research," noted Frazier.

Today's WBC membership includes leading companies like Arclin, Ashland, Georgia-Pacific Chemicals, Henkel Corp., JELD-WEN Windows and Doors, Momentive, Weyerhaeuser Co. and the Willamette Valley Co. These companies are making a long-term commitment to research and to improving their ability to provide innovative solutions to the industry. Allan Bradshaw, director of technology at iLevel by Weyerhaeuser agrees. "With energy codes rapidly driving

changes in the way homes are constructed, wood products manufacturers need to develop wood-based solutions that maintain the carbon benefits of using wood in home construction," said Bradshaw. "Weyerhaeuser has maintained our investment in research and development to drive these and other building solutions that continue to benefit both builder and homeowner."

"This is a great opportunity for our industry to support beneficial research at universities efficiently and in a way that enables them to secure other funding sources for these projects," added Cribb. 

*Linda Caudill (540-231-7092, lcaudill@vt.edu) is managing director of WBC. More information about the Center, including membership, can be found on its website at www.wbc.vt.edu.*

# FLUID TEST

## *Fluid Analysis and Hot Oil System Review for Press Platen Systems*

*by Jim Oetinger and Jed Seybold*

**J**n sawmills, plywood and veneer plants, and MDF and OSB mills, hot oil systems are often specified rather than steam because the temperature requirement of the materials, usually well over 500°F, would require high steam pressure, in turn necessitating heavy and expensive system components to handle the PSI. Not to mention the need for licensed operators, and the water treatment chemical expenses.

And there's an old saying in the thermal fluid business, "If you see the fluid, you've got a problem." So, you count your blessings when the system runs well and the fluid stays inside, where it's supposed to.

Of course, there are two sides to every coin. If you can't see the fluid, how do you know what condition it's in? Your heat transfer system may continue to chug along quietly even if the fluid is degrading. Only when the degradation becomes advanced enough might you detect a reduction in system performance.

The answer? Analysis of your heat transfer fluid.

Heat transfer fluids/hot oils very seldom go bad without help. Over 95 percent of fluid degradation is caused by equipment malfunction, poor design or operating errors. The other five percent is caused by incorrect temperature range matching. The system can appear to operate very normally for a number of years. Any problems that are the result of fluid degradation occur very gradually—the cold spots in the press start to affect product quality or the start-up after the annual shutdown takes three times as long as last year. Detecting changes in the condition of the fluid can help identify problems before they become serious maintenance issues.

Once the problems start, testing the fluid will only confirm that the fluid is

bad and may need to be replaced. One test is not going to be useful in determining whether the fluid was contaminated, a valve was left open by mistake or the latest modifications weren't well conceived. The best practice is to test the fluid before the problems start.

Periodic testing (at least annually) establishes a history of the system. This history is vital since it separates the "normal" changes from the abnormal changes. New systems should be tested within the first 6-12 months of start-up to check for any serious operational or design issues that are already affecting the fluid's condition. Existing systems that have had a fluid change out should be tested within one or two weeks of start-up to quantify the effects of the previous fluid residue on the new fluid. These initial analyses create a baseline against which future tests are compared.

The ideal location for taking a sample is near the pump suction. The pump should be operating and the temperature above 180°F. Taking the sample from a dead piping leg, the expansion tank or the drain tank will lead to erroneous results. Samples should always be taken in the container that will be sent to the lab. If a sample is allowed to cool in one container before it is transferred into the final container, suspended solids will settle out and be left out of the final sample. The presence of these solids in a sample can be a strong indicator of a problem, so it is vital that all of the material that comes out of the sample tap be sent in for testing. If safety concerns prohibit hot sampling, a simple sample cooler can be fashioned from a modest length of copper coil and a bucket of water.

Because lubricating oil tests are well known, inexpensive and convenient, thermal oil samples are often sent to lube oil testing laboratories. The problem is

that tests specified for lubes, which may include trace metals, particle counts and Ramsbottom/Conradson carbon, measure things that are important for lubrication and hydraulic systems but not heat transfer. For example, thermal fluid pumps do not operate at high pressures and so do not have the close mechanical tolerances that can be affected by particles. Particles in thermal fluid are more of a nuisance than a threat. At worst they form sludge, which is independent of particle size. And because thermal fluids contain virtually no inorganic additives, any heating-based carbon solids analysis is not worthwhile.

There are three basic tests that should be performed to properly characterize the condition of thermal fluid. They are listed in decreasing importance:

**Acid Number:** This is the most important test because acids formed from fluid oxidation are the raw material for almost every bad thing that can happen to a press-heating system, from cold spots to fluid "gelling." New fluid is shipped with an Acid Number of 0.01 to 0.04 g KOH/g sample. Setting an upper limit is tricky because the Acid Number will stabilize once the conversion from acid to carbon begins. In press-heating systems, carbon will typically begin to form at an Acid Number of around 0.2. However, given that the problem is irreversible once it starts, any successive increases should be checked out promptly.

**Viscosity:** Extremely high viscosity can reduce the heat transfer rates of the fluid and can also make the fluid un-pumpable at ambient temperatures. In general, a fluid viscosity over 100 cSt at 40°C (about 100°F) will require a long time to thin out from a cold startup.

**Distillation Range:** When compared to new fluid or to previous samples, this test can determine whether a fluid has simply degraded or if it has been contaminated.

There are two tests that can provide additional information for troubled systems.


**Suspended Carbon:** This test measures the weight of carbon particles produced as acids degrade in the heater. There, particles remain suspended in the fluid while it is circulating but will form sediment (sludge) in low flow areas. These particles can clump and form blockages where excessive turbulence forces them together. The size distribution doesn't matter; it's the total amount that determines the extent of the problem. If the results indicate that there is more than 0.5 g of carbon per gram of sample, installing a side stream filter is usually recommended. The test is also sensitive enough to monitor the progress of a filtration program.

**Water:** Water does not remain undetected for long. Unlike lubricating and hydraulic systems, heat transfer fluids operate at a high enough temperature to flash any entrained water to steam. The volume difference between liquid and vapor will cause the expansion tank to overflow, and in addition may cause significant pump cavitation. Testing samples for water is recommended if the system has a oil/water exchanger installed for cooling. In this case any result over 100 ppm indicates that there is a tube leak.

Flash Points (both Open and Closed Cup) will change as the condition of the fluid changes, and in a pinch can be used to estimate whether the fluid has been overheated. The Closed Cup test is extremely sensitive to any increase in volatile molecules produced as the fluid ages. It is only meaningful if the results are compared with valid previous test results. The problem? There tends to be significant variability from test to test (swings of 6 percent are not uncommon), which make them unsuitable for establishing fluid condition on a consistent

basis. A more stable and quantifiable test for detecting thermal degradation is the Distillation Range test.

Once the testing is complete, the data must be analyzed and discussed with the user—often the maintenance engineer or manager. This discussion requires not only a review of previous samples but also a knowledge of the process and equipment so that the appropriate questions can be asked and the reasons for any changes in the fluid quickly identified.

A few hundred dollars spent annually on proper fluid analysis, and the resulting system review, can result in many thousands of dollars worth of savings, not only from increased fluid life but also through increased plant production continuity and reliability, as well as plant and personnel safety. 

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### Technology Articles Invited

Mill processing and manufacturing technology articles like this one are invited and welcome. Preference is given to EWTA member contributors. In addition to appearing in the print and online editions of the *Engineered Wood Journal*, articles also are posted in the Technology Forum section of the EWTA website at [www.engineeredwood.org](http://www.engineeredwood.org). Send article ideas and queries to [jack.merry@apawood.org](mailto:jack.merry@apawood.org). Writer's Guidelines also can be found in the *Engineered Wood Journal* section of the EWTA website at [www.engineeredwood.org](http://www.engineeredwood.org).

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# BEST IN CLASS

Ten APA Member Companies Earn 2010 Safety Awards



LP, Nashville, Tenn. and Canfor-LP OSB Limited Partnership, Fort St. John, BC won Safest Company Awards in their respective categories while Georgia-Pacific Wood Products LLC, Camden, Texas, earned the coveted Innovation in Safety Award in the 2010 Safety and Health Awards Program sponsored annually by APA for the structural wood panel and engineered wood products industry.

LP, a leading North American manufacturer of structural wood panels and engineered wood products, earned top honors among companies with four or more mills with a 2010 average Weighted Incident Rate (WIR) of 1.20. Canfor-LP, which produces oriented strand board, won its award in the category for companies with three or fewer mills. The company posted a perfect 0.00 WIR for 2010.

Georgia-Pacific's Camden, Texas plywood mill took the innovation prize for developing and implementing a proactive initiative called the STARS Card Program. STARS (Stop, Think And React Safely) is a behavior-based program that promotes interaction among the employees in an effort to correct hazardous practices and encourage safe behavior. Employees conduct a 10-15 minute observation of their co-worker(s) performing a task, note both safe and unsafe actions and/or conditions on the

## INNOVATION IN SAFETY AWARD

**Georgia-Pacific Wood Products LLC – Camden, Texas** **STARS Card Program**

## SAFEST COMPANY AWARDS

	AVERAGE WIR	AVERAGE TIR
<b>Canfor-LP OSB Limited Partnership</b> <i>(Companies with three or fewer mills)</i>	0.00	0.00
<b>LP</b> <i>(Companies with four or more mills)</i>	1.20	0.43

## ANNUAL SAFETY AND HEALTH HONOR ROLL

Division I (Under 400,000 Hours)		HOURS	WIR	TIR
1st Place	<b>LP</b> <i>Panguipulli, Chile</i>	350,622	0.00	0.00
2nd Place	<b>Norbord</b> <i>Nacogdoches, Texas</i>	301,566	0.00	0.00
3rd Place	<b>LP</b> <i>Roxboro, North Carolina</i>	293,758	0.00	0.00
Division II (Over 400,000 Hours)		HOURS	WIR	TIR
1st Place	<b>Norbord</b> <i>Cordele, Georgia</i>	431,013	0.00	0.00
2nd Place	<b>Georgia-Pacific Wood Products LLC</b> <i>Prosperity, South Carolina</i>	632,003	0.32	0.32
3rd Place	<b>Georgia-Pacific Wood Products LLC</b> <i>Corrigan, Texas</i>	930,869	0.43	0.43

## THREE-YEAR SAFETY AWARD (2008-2010)

Division I (Under 400,000 Hours)		AVG. HOURS	AVG. WIR	AVG. TIR
<b>LP</b> <i>Panguipulli, Chile</i>		336,310	0.00	0.00
Division II (Over 400,000 Hours)		AVG. HOURS	AVG. WIR	AVG. TIR
<b>Georgia-Pacific Wood Products LLC</b> <i>Corrigan, Texas</i>		933,729	1.64	0.36

## SAFETY IMPROVEMENT AWARD

Division I (Under 400,000 Hours)						
<b>LP – Newberry, Michigan</b> <b>100% Improvement</b>						
2008 WIR	2009 WIR	2010 WIR	2008 TIR	2009 TIR	2010 TIR	
8.18	4.78	0.00	0.82	0.96	0.00	
Division II (Over 400,000 Hours)						
<b>Louisiana-Pacific Canada Ltd. – Golden, British Columbia</b> <b>94.54% Improvement</b>						
2008 WIR	2009 WIR	2010 WIR	2008 TIR	2009 TIR	2010 TIR	
8.75	0.58	0.48	0.87	0.58	0.48	



<b>INCIDENT FREE HONOR SOCIETY</b>	HOURS	WIR	TIR
<b>Norbord</b> <i>Cordele, Georgia</i>	431,013	0.00	0.00
<b>LP</b> <i>Panguipulli, Chile</i>	350,622	0.00	0.00
<b>Norbord</b> <i>Nacogdoches, Texas</i>	301,566	0.00	0.00
<b>LP</b> <i>Roxboro, North Carolina</i>	293,758	0.00	0.00
<b>LP</b> <i>Carthage, Texas</i>	282,656	0.00	0.00
<b>Canfor-LP OSB Limited Partnership</b> <i>Fort St. John, British Columbia</i>	278,017	0.00	0.00
<b>LP</b> <i>Tomahawk, Wisconsin</i>	233,353	0.00	0.00
<b>Louisiana-Pacific Canada Ltd.</b> <i>Maniwaki, Quebec</i>	221,719	0.00	0.00
<b>LP</b> <i>Newberry, Michigan</i>	213,882	0.00	0.00
<b>LP</b> <i>Two Harbors, Minnesota</i>	212,935	0.00	0.00
<b>Louisiana-Pacific Canada Ltd.</b> <i>Minitonas, Manitoba</i>	210,031	0.00	0.00
<b>LP</b> <i>Houlton, Maine</i>	140,600	0.00	0.00
<b>LP</b> <i>Wilmington, North Carolina</i>	137,668	0.00	0.00
<b>Anthony Forest Products Co.</b> <i>El Dorado, Arkansas</i>	122,057	0.00	0.00
<b>Anthony EACOM Inc.</b> <i>Sault Ste. Marie, Ontario</i>	115,219	0.00	0.00
<b>LP</b> <i>Red Bluff, California</i>	112,558	0.00	0.00
<b>Abitibi-LP Engineered Wood, Inc.</b> <i>Saint Prime, Quebec</i>	103,120	0.00	0.00
<b>Anthony Forest Products Co.</b> <i>Washington, Georgia</i>	82,545	0.00	0.00
<b>Rosboro</b> <i>Springfield, Oregon</i>	70,915	0.00	0.00
<b>Calvert Company, Inc.</b> <i>Vancouver, Washington</i>	67,590	0.00	0.00
<b>Stark Truss Company, Inc.</b> <i>Beach City, Ohio</i>	43,073	0.00	0.00

STARS card and give immediate feedback to their co-worker(s). The card's data is analyzed to determine trends and to develop action plans to eliminate risk behaviors.

Among the criteria for the Innovation Award is demonstration that the innovation reduced occupational injuries or illnesses. During the four years the STARS Program has been in place, the facility-wide incident rate at the Georgia-Pacific plant has decreased from 2.12 to .33 and healthy communications among employees concerning both safe and unsafe practices have become the norm.

Innovation Award entries can be submitted by a mill, a group of mills or an entire company. Thirty-six Innovation entries were submitted in 2010, a 50 percent increase over the previous year.

The awards program, begun in 1982, honors the managements and employees of companies and mills with the lowest severity-weighted incidence rates based on guidelines established by the U.S. Occupational Safety and Health Administration (OSHA). It employs a Weighted Incident Rate that is calculated using both the number and severity of recordable incidents. Since 2008 was the first year that WIR was used, awards and reports for 2009 and 2010 continue to also show Total Incident Rate (TIR), the measure used in previous years.

Eighty-eight APA member structural wood panel and engineered wood product facilities in the U.S., Canada and abroad participated in the 2010 program. A total of 25 mills representing ten APA member companies—Abitibi-LP Engineered Wood, Inc.; Anthony Forest Products Co.; Anthony EACOM Inc.; Calvert Company, Inc.; Canfor-LP OSB Limited Partnership; Georgia-Pacific Wood Products, LLC; LP; Norbord; Rosboro; and Stark Truss Company, Inc.—earned awards in various competition categories of the 2010 program. Some of the mills were multiple award winners.

All major product categories produced by APA's membership were represented among the winning mills, including oriented strand board, plywood, glulam timber, wood I-joists and structural composite lumber.

In addition to the Safest Company and Innovation awards, other competition categories include Safety Improvement, Annual Safety and Health Honor Roll, Three-Year Safety Average, and Incident Free Honor Society. Twenty-one mills achieved a zero incident rate for the year and thus were named to the Incident Free Honor Society. The annual honor roll, three-year average and safety improvement categories are divided into two divisions based on hours worked annually—more than or fewer than 400,000 hours.

While the program awards are limited to APA members, data is collected from both member and non-member mills in order to provide a broad-based industry performance benchmark. A total of 112

mills reported data for 2010. The 2010 industry Total Incident and Weighted Incident Rates were 2.44 and 10.94, respectively, up slightly from 2.18 and 10.64, respectively, in 2009.

The winning facilities and companies will be recognized and their safety accomplishments celebrated during the Chairman's Dinner at APA's annual meeting in October in New Orleans, La. Award plaques also have been presented to the winning mills by APA President Dennis Hardman or other APA management staff.

The 2010 safety awards program was the third year under a revitalized safety program effort spearheaded by an APA Safety and Health Advisory Committee comprised of several APA member company safety professionals. Under the committee's guidance, three main goals were established: make the APA program the premier safety awards program in the industry, encourage the sharing of best practices as a means to improve the in-

dustry's safety culture and programs, and most important, improve the industry's overall safety performance.

The APA Safety and Health Advisory Committee recently sponsored a free webinar on Wood Dust Best Practices. Over 50 safety and health professionals participated in the informative event. More webinars will be developed and a full-day safety workshop will be held in October in conjunction with APA's annual meeting. (See page 17 for more information on the workshop.)

More information on the APA Safety and Health Awards Program can be found on the Association's website at [www.apawood.org](http://www.apawood.org).

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## APA Responds to Report Naming Formaldehyde as a Carcinogen

APA recently developed a news release for use in responding to media inquiries about a federal report that lists formaldehyde as a known carcinogen and that could therefore raise concerns about health risks from structural wood panels and other structural engineered wood products.

The release, which is posted in the News & Events section of the APA website at [www.apawood.org](http://www.apawood.org), notes that formaldehyde emissions from structural engineered wood products are so low that the products easily meet or are exempted from the world's leading formaldehyde emissions standards and regulations.

The release also points out that formaldehyde is an organic compound found naturally in wood and a wide range of foods, including fruit, vegetables, mushrooms and seafood. "As with most environmental exposure risks," the release notes, "the issue is not with the chemical itself but with unusually excessive or immoderate exposure levels."

### USDA Wood Use Strategy Applauded

APA joined the growing ranks in business, industry and the general public in support of the U.S. Department of Agriculture's strategy, announced last spring, to promote the use of wood as a green building material.

"The Department of Agriculture's recognition of the environmental merits of wood and its commitment to the research and development of sustainable wood building systems and practices is a welcome policy," said APA President Dennis Hardman. "We applaud USDA Secretary Tom Vilsack for his vision and look forward to partnering with his department in support of its wood research and promotion goals," Hardman said.

Secretary Vilsack announced a three-part strategy addressing the Forest Service's and USDA's green building practices. The strategy includes preferential selection by the U.S. Forest Service of wood in new building construction, examination of ways to enhance Forest Service research and development of green building materials, and demonstration of the innovative use of wood as a green building material for structures larger than 10,000 square feet using recognized green building standards.

### Wall Sheathing Research Completed

An 18-month research project designed to increase the competitiveness of OSB and plywood shear walls was completed recently, with the results now being used to develop comprehensive publications for practicing engineers in optimizing shear wall design in high seismic zones, such as California.

The project, called Force Transfer Around Openings, was a joint effort of APA, the USDA Forest Products Laboratory (FPL) and the University of British Columbia (UBC). Funded by FPL, the research provides a design methodology that can accurately predict the force distribution around shear wall openings, such as doors and windows. The effort involved two parts, the first an experimental study conducted at APA, the second a model analysis performed by UBC.

The final report on the research is available from APA.



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## APA Board Sets Goals as Part of Strategic Analysis

The APA Board of Trustees formulated four executive level goals as part of the Association's new three-year strategic plan during a planning session held last spring at APA headquarters in Tacoma.

The four goals include 1) maintenance of APA's independent certification program to ensure member compliance with standards and APA's role as a leading standards-setting organization, 2) protection and growth, where economically viable, of wood product share in major end-use markets, 3) strengthening APA as the voice of the industry through increased membership and non-dues income, and 4) exercising fiscal responsibility and maintaining organizational effectiveness.

APA staff have now also completed development of metrics and targets for each goal, as well as strategies and tactics necessary to achieve the targets.

## Several Companies Join EWTA Membership Ranks

Several engineered wood product industry suppliers joined the Engineered Wood Technology Association recently. They include:

**Albany International** ([www.albint.com](http://www.albint.com)), a global advanced textiles and materials processing company headquartered in Rochester, N.H.

**Calculated Structured Designs Inc.** ([www.csdsoftware.com](http://www.csdsoftware.com)), a Calgary, Alberta software development company providing enterprise solutions for the engineered wood, architect, design and building industries.

**Chem-Trend LP** ([www.chemtrend.com](http://www.chemtrend.com)), a global leader in the development of release agent technology for the composites industry, headquartered in Howell, Mich.

**Norjohn Limited** ([www.walkerind.com](http://www.walkerind.com)), a wax emulsion supplier based in Orchard Park, N.Y.

**Pöyry Management Consulting** ([www.poyry.com](http://www.poyry.com)), Oakville, Ontario, a business consulting and advisory services company.

**Top Wood Jobs** ([www.topwoodjobs.com](http://www.topwoodjobs.com)), based in Eugene, Ore. The company provides recruiting, staffing and consulting services to the wood products industry.

**Venango Machine Company, Inc.** ([www.venangomachine.com](http://www.venangomachine.com)), Wattsburg, Pa. Together with its sister company, Custom Engineering, the company provides complete platen services.

The membership of EWTA, which is APA's related nonprofit supplier organization, now stands at around 80 U.S., Canadian and offshore-based companies.

## APA Issues First Green Verification Report

APA earlier this year published its first Green Verification Report under a new service that provides a mechanism for member manufacturers to report eligibility for points in accordance with the *National Green Building Standard, ICC 700-2008* and *LEED 2009 for New Construction*.

The first report, for Western Structures Glulam Products, GR-L298, is now posted on the APA website.

The reports list the criteria and points for which the selected products qualify, based on completion of a checklist and verification by APA's technical staff. More information, including the Green Verification Checklists, can be found under the Green Verification link in the members-only section of the APA website.



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## G-P Clarendon County OSB Facility Nears Start-up

Construction of Georgia-Pacific Wood Products' Clarendon County S.C. oriented strand board mill is nearing completion with start-up scheduled for around the first of the year, the company reported.

The plant was part of the acquisition last year from Grant Forest Products that also included operating OSB facilities at Allendale, S.C. and Englehart, Ontario. The acquisition totaled approximately \$400 million, G-P reported.

Once in operation, the Clarendon mill will employ approximately 150 people, about the same number as at Allendale.

The two mills will supply markets across the eastern United States, the company said.

"This facility gives the company the ability to provide enhanced service and value for our existing and potential customers," said Clarence Young, vice president-structural panels sales and marketing. "It also will enable us to expand our product offerings, which in turn allows us to better support our customers' needs," Young said.

All three mills applied for and have been approved for membership in APA.

## Momentive Completes Sale of Composites and Coatings Business

Momentive Specialty Chemicals Inc. ([www.momentive.com](http://www.momentive.com)) announced it has completed the sale of its North American composites and coating resins business to PCCR USA, a subsidiary of Investindustrial ([www.investindustrial.com](http://www.investindustrial.com)), a European investment group with operations in specialty chemicals, resins and intermediates.

The business, which has annual sales of approximately \$230 million and employs 225 associates, includes manufacturing locations in Carpentersville, Ill.; Ennis, Texas; Forest Park, Ga.; and Lynwood, Calif.

## LP Purchases Final Ownership Interest in Brazil OSB Plant

Louisiana-Pacific Corporation (LP) announced in June that its subsidiary, LP South America (LPSA), acquired the remaining 25 percent equity interest in LP-Brasil OSB Industria e Comercio S.A. (LP Brasil) from Masisa do Brasil LTDA, a subsidiary of Masisa S.A. in Chile. LP Brasil operates the oriented strand board plant in Ponta Grossa, Parana, Brazil.

LPSA entered into a joint venture agreement with Masisa-Brasil in 2008. Under that agreement, LPSA bought 75 percent of the plant and related assets. LPSA's acquisition of the remaining 25 percent interest was completed for \$24 million, including working capital, LP reported.

"The completion of this purchase is an important next step in our strategic focus on growing business in South America," said Rick Olszewski, LP's executive vice president of sales and president of LPSA.

The Ponta Grossa OSB plant was placed in service in 2003 and has an annual production capacity of 390 million square feet. LPSA also owns two OSB mills in Chile with a combined annual production capacity of 290 million square feet.

## Siempelkamp Establishes Used Equipment Business Unit

Siempelkamp ([www.siempelkamp-usa.com](http://www.siempelkamp-usa.com)) announced recently it has established a pre-owned equipment business unit for the purpose of buying back older systems and then reselling them on the market as used equipment after comprehensive overhaul.

The company said the service will offer customers numerous advantages, including options for the overhauling and modernization of used equipment to satisfy specific customer requirements. The new unit is managed by Henning Seffers, who has worked for Siempelkamp since 2006.

## QB Corporation Joins Ranks of APA Glulam Manufacturers

QB Corporation, a major manufacturer of glulam beams located in Salmon, Idaho, joined APA recently.

The company produces a broad range of glulam products for the high volume stock business, custom and fabrication business, and industrial markets. Its products are distributed across the western U.S.

QB Corporation is led by President and General Manager Mike Lane, who prior to joining the company in 1993 spent 18 years in the construction industry in roles ranging from field engineering and sales and marketing to vice president. He assumed his present position at QB in 1996.

## Canfor Assembles New Executive Team

Canfor Corporation announced recently the appointments of several members to its new executive team. They include Alistair Cook, senior VP, wood products operations-Canada; Wayne Guthrie, senior VP, sales and marketing; Mark Feldinger, senior VP, forestry/environment and energy; Douglas Warslter, president, U.S. operations; David Calabrigo, senior VP, corporate and legal affairs and corporate secretary; and Alan Nicholl, senior VP, finance and chief financial officer.

Cook has been with Canfor for 20 years, serving in several senior operations positions and as corporate treasurer. Most recently he was vice president, capital projects. Guthrie returns to Canfor after three years as a sales and marketing

vice president elsewhere in the forest products industry. He previously worked for Canfor for 24 years in several senior sales and marketing positions. Feldinger has been with Canfor for 27 years and has held several senior woodlands and operations positions. He was most recently vice president, manufacturing.

### **Nicholson Company Appoints Exclusive Distributor in Western Canada**

Madill, a Nicholson Manufacturing ([www.debarking.com](http://www.debarking.com)) company, announced that Great West Equipment ([www.gwequipment.com](http://www.gwequipment.com)) has been appointed the exclusive distributor representing the Madill brand of forestry equipment in Western Canada.

“Great West’s commitment to world class service and support will allow the Madill brand to be the preferred choice of forestry companies in Western Canada,” said Ron Hait, Nicholson’s North American capital sales manager.

Nicholson Manufacturing purchased the assets of the former Madill Company from Modern Machinery earlier this year.

### **Osmose, Arch Treatment Announce Licensing Agreement**

Osmose, Inc. ([www.osmosewood.com](http://www.osmosewood.com)) and Arch Treatment Technologies, Inc., a subsidiary of Arch Chemicals, Inc., announced recently an agreement whereby Arch Treatment Technologies, Inc. and its affiliates have been granted a worldwide license to practice under certain patents owned by Osmose covering the use of micronized wood preservatives, including a patent that was the subject of a previous dispute between the parties.

Both parties will continue to supply the market with their respective portfolios of preservative products, Osmose said in a news release.

### **UP Railroad Honored for Technology Development**

The U.S. Environmental Protection Agency (EPA) has honored Union Pacific Railroad with its Clean Air Excellence Award for developing Genset switching locomotive technology, which significantly surpasses EPA Tier 2 locomotive standards, the company announced recently.

The Genset, which today is used by each of the nation’s large railroads, was pioneered by Union Pacific in 2005 in an effort to curb the amount of emissions and fuel usage by locomotives.

EPA awardees were chosen based on their development of unique, sustainable solutions that directly reduced emissions of hazardous and toxic air pollutants and provided a model for others in their industry.

### **Momentive Plans Joint Venture in China**

Momentive Specialty Chemicals Inc. ([www.momentive.com](http://www.momentive.com)) and UPC Technology Corporation, a leading China-based producer of specialty chemicals, announced they have signed a memorandum of understanding to create a joint venture company to produce specialty phenolic resins in China.

The joint venture company plans to build its first manufacturing plant in Zhenjiang, Jiangsu, China, adjacent to an existing UPC Technology manufacturing complex, Momentive said in a news release. Consummation of the joint venture is subject to final approval by each company and regulatory review, if applicable.

“We are pleased to partner with UPC Technology, a recognized and respected industry leader, in this important new initiative,” said Marcello Boldrini, vice president and general manager for Momentive’s Specialty Phenolics business.



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**Tolko Announces Executive Appointments**

Hardy Wentzel, formerly vice president and general manager at Weyerhaeuser Co. and Trus Joist's European and North American operations, was recently named vice president, sales and marketing at Tolko Industries Ltd., the company reported. Wentzel leads the company's domestic and international market development and growth programs and oversees its logistics service.

Tolko also announced the appointment of Bob Fleet as vice president, environment and forestry. Fleet formerly held leadership positions at Grant Forest Products Inc. and at the Ontario Ministry of Natural Resources.

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## 2011

### OCTOBER

- 19-21** NAWLA Traders Market, Las Vegas, Nev., [www.nawla.org](http://www.nawla.org)
- 22-25** APA Annual Meeting and Info Fair supplier exhibition, New Orleans, La., [www.apawood.org](http://www.apawood.org)
- 26-28** ProDealer Industry Summit, San Antonio, Texas, [www.prodealer.com](http://www.prodealer.com)
- 27-28** Forest Products Society Sustainable Disaster Relief Housing: Swift and Durable Construction Solutions in Times of Need, Ottawa, Ontario, [www.forestprod.org](http://www.forestprod.org)

### NOVEMBER

- 2-3** Wood-Based Composites Center Advanced Wood Adhesion Short Course, Blacksburg, Va., [www.wbc.vt.edu/center](http://www.wbc.vt.edu/center).
- 2-6** Society of American Foresters national convention, Honolulu, Hawaii, [www.safnet.org](http://www.safnet.org)
- 8-10** North American Building Materials Distribution Association annual meeting and show, Nashville, Tenn., [www.nbmada.org](http://www.nbmada.org)

## 2012

### FEBRUARY

- 8-11** International Builders Show, Orlando, Fla., [www.buildersshow.com](http://www.buildersshow.com)
- 28-29** Bioenergy Fuels and Products Conference, Atlanta, Ga., [www.bioenergyshow.com](http://www.bioenergyshow.com)

### MARCH

- 1-2** Panel & Engineered Lumber International Conference & Expo (PELICE), Atlanta, Ga., [www.pelice-expo.com](http://www.pelice-expo.com)
- 28-30** International Wood Products Association Annual Convention, Indian Wells, Calif., [www.iwpa.affiniscape.com](http://www.iwpa.affiniscape.com)

### MAY

- 9** International WOOD MARKETS Group Global Wood Products: Industry & Market Conference, Vancouver, B.C., [www.woodmarkets.com](http://www.woodmarkets.com)
- 10** PwC Global Forest & Paper Industry Conference, Vancouver, B.C., [www.pwc.com](http://www.pwc.com)
- 17-19** American Institute of Architects Convention & Design Exposition, Washington, D.C., [www.aia.org](http://www.aia.org)

### JUNE

- 3-5** Forest Products Society 66th International Convention, Washington, D.C., [www.forestprod.org](http://www.forestprod.org)

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