

## MDF provides STIFF competition

### EWPA stress testing confirms product strength

*RIGOROUS stress testing completed at the EWPA laboratories in Brisbane have confirmed the high structural strength of medium-density fibreboard.*

"The tests on the characteristic structural properties of a variety of MDF grades show, in fact, that MDF is twice as strong as machine-graded pine (MGP 10)," the general manager of the Engineered Wood Products Association of Australasia Simon Dorries said.

The results of the tests on the modulus of elasticity and modulus of rupture, and shear strength bending and stiffness of MDF, will form part of a new EWPA technical note and possibly find their way into a national building standard.

MDF is an engineered wood product made by breaking down hardwood or softwood residuals into wood fibers. It is generally denser than plywood and is stronger and much denser than particleboard.

### MDF used in staircases for over 30 years

Simon Dorries said the tests flew in the face of claims circulating in some industry sectors that MDF possessed few design properties.

"These claims have suggested, quite wrongly, that Australian manufactured MDF products are unsuitable for use as components

### Rigorous lab work assures high quality



**Product confidence .. Simon Dorries, EWPA general manager, and Andrew McLaughlin, special projects engineer, put MDF samples through rigorous tests for structural strength and product integrity at the Eagle Farm laboratories in Brisbane.**

for staircase construction," Mr Dorries said.

"MDF boards have been used in staircases for at least 30 years without any instance of structural failure."

Mr Dorries said it was more than likely that claims against MDF were simply a misinterpretation of Australian standards and information provided on the use of MDF in staircases.

He said some manufacturers in the solid wood sector had been using the report to suggest EWPA did not support the use of MDF boards in staircases.

"This is certainly bending the truth," Mr Dorries said.

He said the manufacturing standard for MDF boards (AS/NZS 1859.2) specified values for basic structural and material properties of MDF. This allowed many grades of

MDF to be designed and be 'fit for use' in dry protected applications such as stair components, as had been the case for more than 30 years.

Producers of compliant MDF in Australia include Laminex, Borg Manufacturing and Alpine MDF Industries.

Mr Dorries, who is chair of Australian Standards Committee TM-011 responsible for engineered wood products standards, confirmed that one of the first TM-001 items of business would be an urgent update to AS/NZS 1859.2.

"This was last updated in 2004 and does not reflect advancements in manufacturing technologies and the production of more reliable MDF products to clarify their suitability for use in a range of protected load carrying applications," he said.

## Welcome

Welcome to the spring edition of the EWPA Bulletin, a regular news and information service for architects, timber engineers, specifiers, students and builders.

Through this newsletter, the Engineered Wood Products Association of Australasia provides technical information, advice on Australian and New Zealand building codes and standards, updates on forest and forest product certification and building materials performance.

Inquiries or requests for further information on any of the reports in the EWPA Bulletin – or any advice required on EWPA/PAA certified plywood, LVL and wood panel products – can be directed to +61 7 3250 3700.

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A list of EWPA members and their contacts appears on Page 8.



# Laser-cut plywood panels feature in winning entry for EWPAA prize

## 200 guests at design awards applaud presentation of coveted trophy

*MORE than 200 architects, building designers and industry leaders gathered at the National Maritime Museum at Darling Harbour in Sydney on September 18 for the 15th annual Australian Timber Design Awards*

Special guest Senator Richard Colbeck, federal Parliamentary Secretary for Agriculture, took part in the presentations with entrants and award winners announced by MC Rebecca Gilling, human resources adviser with Planet Ark.

The overall Australian Timber Design Award, sponsored by WoodSolutions, was presented to Bates Smart (in collaboration with the Irwin Alsop Group) for Melbourne's Dandenong Mental Health Facility.

### Materials minimisation key brief

The judges said the entry recognised the benefits of timber for functionality as well the importance of sensory experience.



**Overall excellence in the use of engineered wood .. federal Parliamentary Secretary for Agriculture Senator Richard Colbeck (right) congratulates Tara Veldman of Billard Leece Architects, Sydney, and Gilbert Yeong, Grimshaw Architects, Melbourne, joint winners of the EWPAA Geoffery Sanderson Memorial Trophy.**

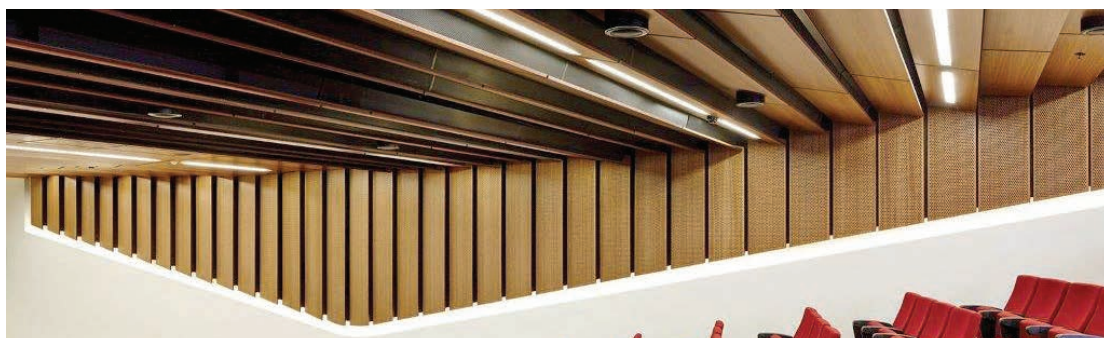
The building and surrounds were an elegant complement to their environment. The judges commented on the understanding by the design team that wood use benefits occupants' health – "timber for healing".

The coveted Sanderson Memorial Trophy for Engineered Wood Excellence, sponsored by the Engineered Wood Products Association of Australasia, was presented to Grimshaw Architects (in collaboration with Billard Leece Partnership) for the Peter Doherty Institute for Infection and Immunity next to the Royal Melbourne Hospital. Opened this year, the institute houses a coalition of infection and immunology experts

to lead the fight against infectious human diseases.

Where possible, timber was adopted as an alternative to materials with high embodied energy. Laser-cut plywood panels and timber battens were used as feature ceilings in prominent areas throughout the building, while veneers were used in the auditorium wall and ceiling linings, foyer seating, fixed office joinery, furniture and feature wall linings.

The key brief was material minimisation – omitting ceilings, maximising use of self-finished primary elements, and adopting timber as an alternative to materials with high embodied energy where possible.



**Melbourne's Peter Doherty Institute won the EWPAA Timber Panels Award at the Australian Timber Design Awards in Sydney for Grimshaw Architects, Melbourne, and Billard Leece Architects, Sydney. The entry went on to win the EWPAA Sanderson Memorial Trophy for Engineered Wood Excellence.**

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# Group enforcement of Australian standards prevents non-compliant imports from Asia

## \$12m order of joinery components cancelled

A MAJOR Queensland developer has cancelled a \$12 million shipment of kitchen and bathroom components from Asia after warnings the products could be blacklisted by Australian building authorities and the CFMEU.

The Asian manufacturers were unable to guarantee the joinery fixtures – ordered for the fit out of five 30-storey towers and apartment buildings on the Gold Coast – would meet Australian standards for structural safety and formaldehyde emissions.

### Unable to guarantee standards

This is believed to be the first group enforcement of its kind in Australia. Certificates showing compliance with Australian building codes and standards were demanded by the project builders, joinery and shop fitters, the site manager, the construction company, the contract administrator and the powerful CFMEU.

The Construction, Forestry, Mining and Energy Union, representing the building and construction, forestry and furnishing and mining and energy sectors, has more than 120,000 members and employs around 400 full time staff and officials.

Confronted with the list of building standard requirements and the possibility that the imported building products could be condemned before they left the container ship in Brisbane,



**It's Australian-made.. and we're sticking to it: Dean Brakell, general manager, Furnishing Industry Association of Australia (right) discusses the FIAA-EWPA low-emissions sticker campaign with FIAA director Brad Willis of Clarence Valley Kitchens, South Grafton, NSW, during AWISA 2014 in Brisbane.**

the developer decided to choose kitchen and bathroom products manufactured locally.

"By using the imported products which were sure to fail Australian standards on all fronts, the developers probably would have achieved a saving of only around \$500,000 on the project," one industry analyst observed.

"And had they gone ahead, the cost of non-compliance would have cost millions."

Demands on the developer got tougher every day; the CFMEU warned if the components were not 'legal' they would be banned from entry to the building site and if any kitchen or bathroom component installed showed emissions higher than Australian standards they would be ripped out."

The general manager of the Engineered Wood Products Association of Australasia Simon

Dorries was heartened by the group action on imports.

EWPA is in the middle of a consumer campaign that guarantees Australian and New Zealand engineered wood products are tested to conform to safe emission levels demanded by health authorities.

The campaign, in association with the Furnishing Industry Association of Australia, includes the distribution of thousands of flyers to FIAA members carrying the message products manufactured by EWPA members are certified Super E0, E0 and E1 under a strict JAS-ANZ accredited system.

Mr Dorries said laboratory tests by EWPA had shown some imported wood panels had emissions greater than 3 mg/L, well above safe levels recommended by the federal government's National Industrial

Chemicals Notification and Assessment Scheme (NICNAS).

"Random testing reveals unsafe materials are still entering the Australian market – a potentially serious problem," Mr Dorries said.

He said plywood and veneer wardrobes and joinery items imported from China and installed on a multi-unit building project in northern NSW were condemned after the Department of Housing found emission levels had "soared through the roof" and the health and safety of occupants was put at risk.

The project cost the developers an additional \$1.3 million to replace the furniture and employ plumbers and electricians for a complete rebuild after the non-compliance order.

NICNAS, which is responsible for the assessment and safe use of industrial chemicals, has advised construction workers and wood panel users against the use of products that contain formaldehyde exceeding the low emission limits of E0 and E1.

Products meeting E0 and E1 are considered safe in all applications including indoor and poorly ventilated applications.

The EWPA maintains NATA-accredited laboratories to test for formaldehyde emissions. All EWPA certified products are tested on a monthly basis. The schemes are accredited by the Joint Accreditation System of Australian and New Zealand (JAS-ANZ).

### Accredited emission tests in Brisbane

The average formaldehyde emission for all structural and Type A exterior plywood products produced by EWPA certified mills is only 0.14mg/L or one-third the permitted level for E0 and approximate to the natural formaldehyde emission from timber.



# Spending QUALITY time at the EWPAA laboratories in Brisbane

*MEMBERS of the AFPA solid wood processing technology committee took advantage of a Brisbane meeting recently to inspect the Eagle Farm office and laboratories of the Engineered Wood Products Association of Australasia.*

The technical committee is a sub-committee of the Australian Forest Products Association's processing chamber.

The committee discussed current technical issues in solid wood processing focusing on the Plantation Timber Certification Scheme, a voluntary certification program for MGP and F graded timber administered by the EWPAA and accredited by JAS-ANZ.

"This provides the same level of scrutiny as other engineered wood products such as LVL, I-beams and plywood," said Andy McNaught, EWPAA technical manager, who is directing the program.

## Now part of JAS-ANZ certification

"Uptake of the scheme has been excellent with most major producers on board, including the most recent participation by Colac-based AKD Softwoods."

Membership of the scheme entitles mills to have their AFS chain of custody certification and Australian wood packaging certification completed at no extra cost. Audits for the three certification schemes are integrated to minimise disruption to mill staff and production.

"This means EWPAA now provides technical and general input on behalf of the industry to standards development," Mr McNaught said.

"The bottom line is that producers of solid structural timber can now be part of a rigorous JAS-



**Quality control .. EWPAA laboratory technician Christian Hamlyn (second from left) explains bond evaluation of plywood to visiting wood processing technology committee members Geoff Stringer of Hyne, Kim Harris, Carter Holt Harvey Wood Products Australia, and Carl Angus, AKD Softwoods.**

ANZ accredited product certification scheme that gives consumers the confidence to consider MGP and F graded timber as a true engineered product."

Mr McNaught said the plywood and LVL industries had always valued the services of EWPAA and the value of the EWPAA brand was something the solid timber industry wanted to embrace.

"Users of the program appreciate the value of EWPAA's input, both at an audit level and a technical representation level and they

see this as value for money," Mr McNaught said.

"What we've done is to pitch it at exactly the same level as our LVL and plywood programs so users can be totally confident that the material they are buying is an engineered product – and the EWPAA brand confirms this."

JAS-ANZ accreditation was established in 1991 by the Australian and New Zealand governments to strengthen the trading relationship between the two countries and with other countries.



**EWPAA technical manager Andy McNaught (left) shows samples tested for formaldehyde emissions to Nick Livanos, Koppers Performance Chemicals, and Gavin Matthew, manager processing, Australian Forest Products Association.**



# EWPAAs audit ticks product quality for Fiji's growing plywood industry

*LABORATORY technician Andrew McLaughlin has passed muster as an EWPAAs auditor, completing one of his first assignments in Fiji.*

Based at the Brisbane EWPAAs offices in Eagle Farm, he was accompanied by general manager Simon Dorries and visited EWPAAs member companies Fiji Forest Industries and Valebasoga Tropikboards Ltd, both based at Labasa, in the northeast of Vanua Levu island.



**Bula, Fiji .. Simon Dorries, general manager of the Engineered Wood Products Association of Australasia and EWPAAs lab technician Andrew McLaughlin confer in Labasa, Fiji, with Valebasoga Tropikboards executives Chanen Singh, quality manager, and Ravin Chandra, site manager.**

## External auditing program

Each mill participates in an external auditing program to ensure 'in-mill' process control and internal auditing meet the requirements of EWPAAs quality control program. Additionally, samples of product are taken randomly from each mill each shift and forwarded to the EWPAAs national NATA laboratory in Brisbane for evaluation to Australian and New Zealand standards.

Fiji Forest Industries is owned by Tropik Wood Industries Ltd, which operates a sawmill and woodchip plant and also owns

Tropik Wood Products Ltd in Bua and Tropik Energy Ltd in Nadi, producing power from sawmill and woodchip residues.

Valebasoga Tropik Boards is a large value-adding plywood manufacturer and as the biggest producer of veneer ply board and sawn timber in the northern region employs more than 5000 people in harvesting, manufacturing and land management operations.

The company has become a major export oriented manufacturer of ply board and timber supplying local and overseas markets. About 80% of its plywood products are exported to countries such as Australia, New Zealand, the US, Dubai, Papua New Guinea and the Pacific islands.

Timber is Fiji's third-largest export commodity and the sector still has considerable growth potential as Fiji is one of the most developed economies in the Pacific islands due to its abundance of forests, minerals and fish resources.

More than 50% of Fiji's land cover is made up of native forests; another 5% to 6% is under pine and hardwood plantations.

On available figures, softwood plantations, mainly pine (*Pinus caribaea*), represent 2.5% (46,379 ha) of the land area and have been established on the leeward and grasslands. There is great potential for plantation expansion.

Hardwood plantations of mainly mahogany (*Swietenia macrophylla*), representing 2.9%

of the land area, have been established on logged-over rainforests, mainly on the eastern and central parts of the larger islands.

Forest expansion estimates are based on the anticipated increase in production of indigenous and pine logs as well as harvesting of mahogany plantations. Earnings from forestry products are greatly influenced by the price of exports and weather patterns.

Fiji has been self-sufficient in most timber products for more than 10 years.

Future prospects for the forest industry are bright. The outlook, however, continues to be heavily reliant on the commencement of large-scale utilisation of Fiji's mahogany plantation resource.

## Procurement policy: level playing field a 'no-brainer'

AN Australian-made procurement policy by federal and state governments would "turn the tables" on furniture imports, mostly from Asia, that continue to fail Australian standards for consumer safety and trusted forest certification, FIAA general manager Dean Brakell said at AWISA 2014 in Brisbane.

"Such a policy – and other countries like Canada are doing it – would almost turn the fortunes of furniture manufacturers

overnight," Mr Brakell said.

"We are continuing to take the fight to Canberra and we're working closely with the influential Furniture Cabinets and Joinery Alliance which met with federal Department of Industry officials at an industry forum during AWISA.

"It's simple," Mr Brakell said. "We want products to conform to certified sustainable forests rules, third-party accreditation and compliance with Australian building standards.



**Visiting the EWPAAs stand at AWISA 2014 .. Steve Coles, Queensland flooring manager, Big River Group, Springwood, and Alicia Oelkers, state manager, TABMA Queensland.**

"A level playing field is a no-brainer."

FIAA members have enthusiastically joined an EWPAAs consumer awareness campaign, which includes point-of-sale fliers that guarantee Australian and NZ engineered wood products are tested to conform to safe emission levels demanded by health authorities.

The EWPAAs stand at AWISA 2014 was a great promotional opportunity for the services of EWPAAs.

# Engineered wood – keeping on top of the game in New Zealand

*PROJECTS using engineered wood from New Zealand producers are popping up all over the rebuild blueprint for earthquake-damaged Christchurch city.*

The much-anticipated plan includes key sites for major facilities, including a new 2000-capacity, three-storey convention centre by the Avon River, a huge aquatic and indoor sports facility, a revitalised city square with a new central library, office blocks, shops and restaurants.

"The Christchurch rebuild seems to be one of the few bright spots in a slow-growth market for building timbers," says Brendan Smith, president of the Engineered Wood Products Association of Australasia.

"The market in New Zealand is increasingly competitive under pressure from imports, but higher volumes of particleboard and strandboard panel products are kicking in now as the pipeline to Christchurch for building materials widens," said Mr Smith who is site manager for Juken New Zealand's plywood and sawmill operations at Gisborne.

## **EWPA members in the market with big advantages**

Juken, which has provided innovative seismic earthquake proofing systems using LVL to a new community centre in Carterton, is also winning business with products from its Triboard mill at Kaitia in the North Island. These include a three-layered panel with a wood strand core sandwiched between an MDF outer 'skin', which gives a clean-lined panel of high resilience, strong impact resistance and greater stiffness than other similar products.

Mr Smith said although the company's volumes were increasing and they were maintaining market



**Brendan Smith .. keeping up the standard in New Zealand.**

share, "there seems to be someone new in the game every month."

"But EWPA members are in the market with a big advantage over many fly-by-night overseas suppliers – consistency of supply, service back-up and the all-important product guarantees, something that is seriously lacking in a lot of the imported products," Mr Smith said.

EWPA members and the association's education and marketing program are pushing these attributes hard and this has turned up the volume for the ears of Worksafe NZ, the country's tough workplace health and safety regulator.

An offshoot of the old Department of Labour, Worksafe NZ has about 350 staff located in 20 offices across New Zealand.

"New and revised Australian-NZ standards have been noted by Worksafe NZ inspectors and they are asking some very pertinent questions about certification and fit for purpose materials on building sites," Mr Smith said.

"They are pushing for the highest safety and checking to see if planks are certified and used in a safe way.

"Some products, believed to be of Asian origin, have failed on compliance and in fact have been removed from building sites, so Worksafe NZ is showing some teeth in this regard."

Mr Smith said there would always be a preference by professional builders to work within the best guidelines.

"But we must make sure these guidelines all align with new standards in a way that's not over-technical and that they are provided in simple, plain English."

EWPA general manager Simon Dorries has been making regular visits to New Zealand to update and explain new Australian-NZ standards to government building authorities such as the NZ Commerce Commission and the NZ department of Building and Housing.

"We're talking to the right people," Brendan Smith said.

He said imported product was here to stay and South America was ramping up supply; it was a challenge to go up against it.

## **Responsibility backed up by guarantees**

"But in turn, the challenge for them is to show product and supply guarantees and their supply chains can't provide this. There's a lot of duck-shoving on the problem about who is responsible.

"That's where EWPA members shine – product responsibility, back-up, guarantees and the all-important certification and fit-for-purpose brand.



# US tests find high emissions in Chinese-made panels and floors

*CHINESE-made panels and flooring sold in North America have high levels of formaldehyde, according to tests done by the Hardwood Plywood and Veneer Association.*

"We went into a retail store and grabbed a sample, tested it and six out of eight flunked," says Kip Howlett, president of the HPVA, an industry association that represents Canadian and American flooring manufacturers.

When Mr Howlett started testing the imported flooring material five years ago, the levels of formaldehyde were so high, he says some were two to three times over the line.

## **'Like emissions we used to see 30 years ago'**

"It was like emissions that we used to see 30 years ago," he said.

The US state of California has tough labelling and emission rules to control formaldehyde emissions from composite wood products including floors. The US Environmental Protection Agency is expected to soon be putting

out proposed rules that aim to regulate this chemical nationally.

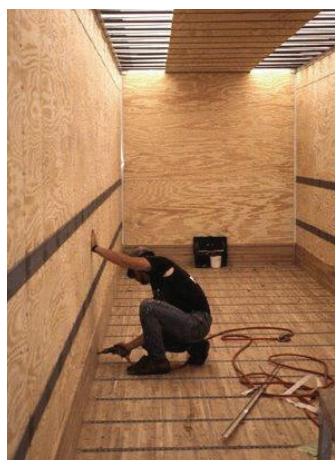
In Canada, there are no similar set of rules. Health Canada, the government agency that regulates formaldehyde, said that since 1986 only a voluntary agreement existed between government and industry to limit formaldehyde in wood products. That limit was based on levels set almost 30 years ago, levels that are higher than rules in some US jurisdictions and the European Union.

Canada needs to get stronger rules, says Kip Howlett. "The rules are there to protect people, they're there to protect the consumer."

"If you jack up the amount of resin, it allows you to basically take your production rate on your press and increase it by 50%. So instead of making a million panels you'll make a million and a half panels."

In July this year, a lawsuit filed in California against Lumber Liquidators, the biggest flooring retailer in the US, claimed that some of the company's Chinese-made laminate floors had unacceptable levels of formaldehyde. The lawsuit says there were insufficient warning labels on these products.

According to court documents, plaintiffs tested Chinese-made



**Health scare .. US producer organisations have expressed growing concern over the effects of high formaldehyde concentrations in travel trailers and mobile homes built from imported Asian products.**



**Kip Howlett .. the rules are there to protect people, they're there to protect the consumer.**

floors which emitted formaldehyde at far higher rates than those manufactured in Europe or North America.

On average, Chinese products emitted at 350% the rate of

European/North American products.

Lumber Liquidators has denied the allegations and said its flooring "meets relevant environmental standards and undergoes rigorous, independent, third-party testing, including those pertaining to formaldehyde emissions".

The levels of formaldehyde are too low to trigger the need for warning labels under Proposition 65, the relevant California law, but some warnings are provided.

The HPVA was formed when the Hardwood Plywood Manufacturers Association merged with the Fine Hardwood Veneer Association in 1992. Its roots, however, lie with the Plywood Manufacturers Institute, established in 1921.

According to Kip Howlett, HPVA's mandate is the advocacy for, promotion of, and implementation of, product performance standards on behalf of its members.

"We represent our members' interests to government and provide education and testing to ensure their products meet the highest performance standards," he said.

HPVA recently updated national consensus standards for hardwood plywood and engineered wood flooring for formaldehyde emission properties.

## Engineered wood choice of UK contractors

*A SURVEY by the Structural Timber Association shows a staggering 74% of UK contractors, developers, architects and registered providers plan to increase specifications of structural timber due to benefits such as thermal, acoustic and sustainability performance, together with speed of build.*

The key is in the strength-to-weight ratio of engineered wood – factory manufactured to exacting standards.

CLT has become an extremely stable solution with little shrinkage or movement post construction. It has proven multi-storey capability, up to nine floors in the UK, and a structural capacity beyond this.

Typical walls for five to six storey construction are often in the region of 100-140 mm thick solid timber.

The UK's X-LAM Alliance, a

seamless and consistent way to supply cross laminated timber (X-LAM) has Buildoffsite Property Assurance Scheme (BOPAS) accreditation. This provides assurances to the lending community that structures will deliver a consistent performance over a determined durability of 60 years.

Using CLT delivers program certainty and enhances the construction, as well as offering exceptional accuracy and minimal defects.

Using offsite construction with

a rapid large panel construction method also reduces the concern of weather dependency. Engineered wood delivers sustainable outcomes that are the key for environmentally conscious developers and residents.

The speed of engineered wood construction has delivered a faster return on investment – a crucial benefit for housing developers and ultimately, the new owners who may have purchased their home 'off plan' and are eager to complete the purchase and move in.



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