

TimberTrader₁

news

25 years of Combilift

Page 24



PLUS! Trusty EWP p34

PAGE 4

**LIGNA WRAPUP – ALL THE
NEWEST AND BEST**

PAGE 28

**TIMBER-LOOK BOARDS
FOR TRICKY ZONES**

PAGE 48

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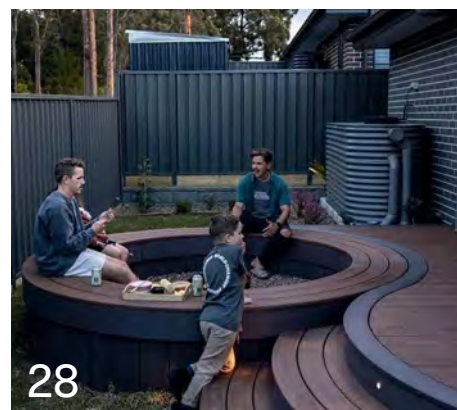
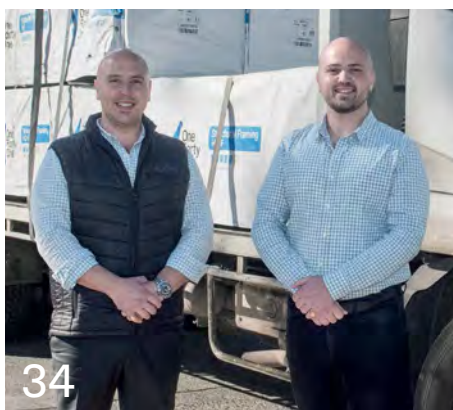
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Contents

Industry update

News

Ligna 2023 wrap up; new forestry research centre in Tasmania; NTHA celebrates; Victorian forestry closures and much more ..4

People business

Psychological safety is a new idea, but it's key to empowering worker success.....18

Association update20

Features

25 years of Combilift

The Irish lifting machinery powerhouse has changed the way companies store and move product, all while building an enviable safety culture. We took a tour24

Timbertech

When wood isn't the best choice for a decking application, you can still have all the look with none of the issues28

Woodwise

The beauty of jarrah32

Fabricator news

Engineered wood products

The importance and benefits of compliant product – and the risks from a handful of cowboy importers.....34

Timber noggins

How to choose the right timber options for your durability needs.....44

In the frame

Understanding building durability and design life in construction.....46

FTMA newsletter.....48

Truss talk

Plan for future interactions between trusses and concrete. With Paul Davis50

COVER CREDIT: Courtesy Combilift. Inset: Courtesy Allied Forest Products.

Timber Trader acknowledges the Cammeraygal people, Traditional Custodians of the land on which this publication is produced, and pay our respects to their Elders past and present. We extend that respect to all Aboriginal and Torres Strait Islander peoples today.

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Publisher's note

Activity has certainly accelerated for the *Timber Trader News* team after our first two editions. We have recently participated in a number of key industry events, with team members attending the National Timber and Hardware Association inaugural conference in the NSW Hunter Valley. Sales director Campbell McInnes has been catching up on the latest news in both Germany and Ireland and I was fortunate to be invited to attend the Malaysian Wood Expo 2023 in Kuala Lumpur, Malaysia. So busy times for us.

We have been heartened by the enthusiastic response to the 40-year anniversary celebration of Woodhouse in our May-June edition that featured the successful business 'recipe' of Chris Woodhouse and his family. We have had a couple of companies contact us with a 'me too please' request to assist them in celebrating a significant milestone in their company's history. We will be pleased to do so in future editions.

So, if you have a major company milestone or event on the horizon you want to celebrate and promote, we warmly invite you to contact us to discuss the prospect of including your company's story in a future edition. We can also send you a bulk supply of magazines for you to distribute to customers and sales representatives, so please don't hesitate to make contact with us.

Our hard-working sales and advertising director Campbell McInnes has been on the wallaby since our last edition. He was fortunate to be able to attend the international Linga exhibition in Germany (see the story on this page), and then travel to Ireland as a guest of Combilift to join in the company's celebrations marking 25 years of manufacturing excellence at their remarkable facility (page 24).

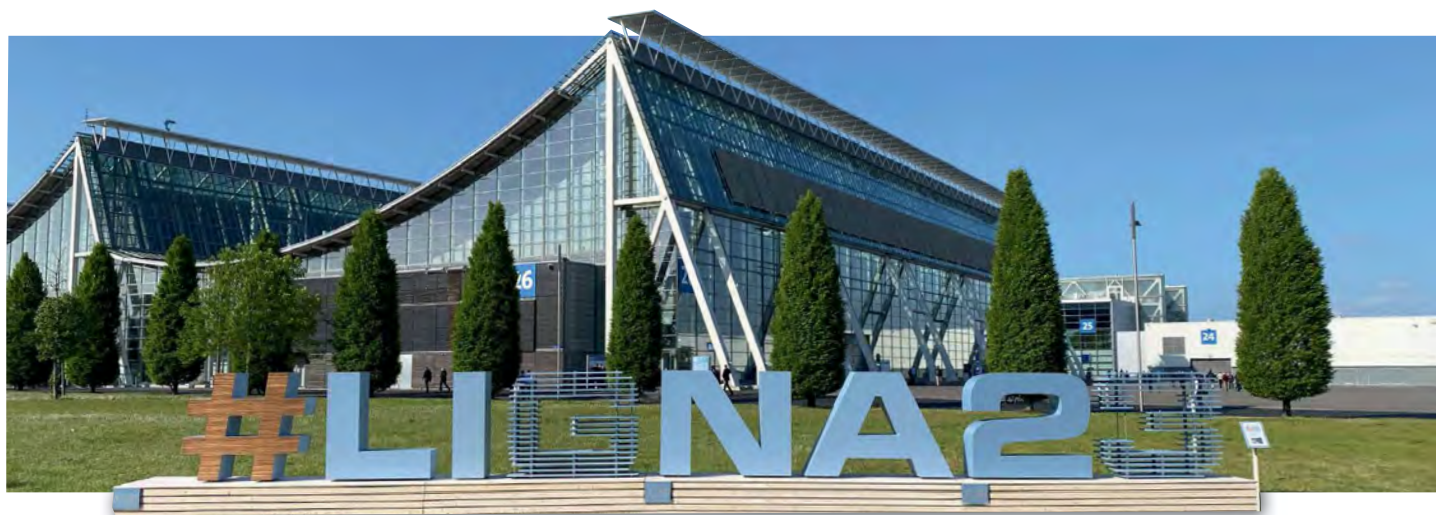
Compliance has been back in the headlines as certifiers crack down on issues and some notable failures have hit the headlines. Our feature on the importance of trustworthy EWP (page 34) and FTMA's warnings on responsibilities (page 48) are not to be missed. Additionally, our engineering writers both have sage advice regarding durability, see their articles on pages 44 and 46.

Also important in this edition is that we acknowledge the distress caused to forestry and timber industry workers and their communities across regional Victoria by the Andrews Government's decision to terminate native forest-based timber production this year. This clearly politically motivated travesty will have severe impacts, not only on regional businesses and towns but also on ongoing supplies of hardwood timber to dependant manufacturing and construction industries across the state of Victoria and beyond. *Timber Trader News* unequivocally condemns this decision.

John Halkett
Publisher



Timber Media
AUSTRALASIA



News in brief

Ligna returns

The world's leading trade fair brought the most innovative parts of the timber industry together in Hannover.

After a four-year hiatus, the global woodworking community were able to meet again in Hannover, Germany for the world's leading trade fair for woodworking and wood processing, with Ligna running from 15–19 May. In 10 halls and in the open-air site, with 140,000m² of exhibition space and roughly 1300 exhibitors, market leaders

and experts from seven exhibition areas presented themselves along the entire value chain of the primary and secondary industry.

The seven exhibition areas were: 1) Tools and Machinery for Custom and Mass Production, 2) Wood-Based Panel Products, 3) Machinery for Forestry, 4) Roundwood and Sawn Timber Production, 5) Surface

Technology, Sawmill Technology, 6) Energy from Wood, Machine Components and 7) Automation Technology. These areas were represented from 50 countries.

As Ligna's own goal has it: "This is where trends are set and discussed that shape the industry and point the way to the future."

Innovations from industry, trade and forestry technology were presented and products and solutions demonstrated live and in action. Some key topics that were covered on the Ligna stage included:

Prefab building processes: looking at the importance of timber in construction – both solid timber and hybrid timber structures.

Woodworking transformation:

digitalisation both present and future with the potential outcomes for the industry.

Green material processing: considering the wood-based bioeconomy as an innovative driver of technologies, from forestry through to finished timber products.

Robotics and advanced technologies: their evolution and impact. This was a dominant topic with many examples on display. Weinig's Hydromat was the perfect example of ongoing development; it has long been the go-to machine for high quality and reliability in timber machining. At Ligna, **Weinig** had on display their new **Hydromat 4400** which has the capability of running at over 400m/minute, requiring infeed and outfeed machinery as humans are not physically capable of keeping up.

There truly was something for everyone on display. In particular, it was great to see and catch up with a number of our advertisers.

HUNDEGGER

On display at the Hundegger stand was the impressive **ROBOT-compact 650**. In addition to the basic equipment, the ROBOT-Drive offers various additional options such as drilling units, slot cutter, labelling system and label printer. It has a patented 6-axis robot unit, and an overhead 5-axis saw/slot/marketing unit with a drive rating of 13kW further increases the throughput of the ROBOT-Drive. It can handle from 20x60mm up to 300x1300mm material and the 6-axis technology equals utilisation of 24 different tools.

Charlie Hutchings, managing director Hundegger Australasia also showed me the **SPEED-Cut 480**, which had a lot of interest at the fair. In late 2022 the new upgraded Speed-Cut 480 (SC480) was released, which has the capability for cross-sections from 20x40mm to 240x480mm and is ideal for processing timber for frames, roof trusses, I-joist, glulam, LVL and solid timber. The new design added technical features to enable it to be a fully-fledged joinery machine. Part of the upgrade saw the SC480 with a 5-axis



Clockwise from top: Homag/Weinmann were just one of the Ligna exhibitors showing their sophisticated robotics systems; Lignoloc wooden nails deliver strength and visual consistency; A Kuka robot automatically shoots the Lignoloc nails in without predrilling; Homag/Kallesoe's solid wood solution stand; The Goldeneye M3 Scan wood scanner by Microtec.





Above: The incredibly versatile Hundegger ROBOT-compact 650 (left) and the SPEED-Cut 480 – ideal for processing I-joist, glulam, LVL and solid timber.

unit, the saw can rotate 360° and tilt 90° being able to carry out almost all types of cuts or tenons, fully automatically and with millimetre precision. For more, contact Charlie Hutchings at cph@hundegger.com.au

RANDEK (BLISS & REELS)

Specialising in machinery for the frame and truss industry Randek, distributed in Australia by Bliss & Reels, is looking to "Building the Future". Back in the 1990s the Swedish company were challenged to automate wall production line for a large US company. The result was the world's fastest wall production line. Today Randek offer a "Zero Labour Robotic System" and have 30 skilled experts at Randek Robotics at their Arvika office. During 2024, over 50 systems will be in operation in seven countries on four continents. For more information, visit www.blissandreels.com.au

COMBILIFT

Combilift had a full range of units on display and in action, include the extremely nimble **Combi-CUBE**, which was released earlier this year, and the **CB70E** – officially released at Ligna by CEO and Co-Founder Martin Mc Vicar. For information on the Combilift range go to www.combilift.com

HOMAG

The multi-brand company had a number of separate and impressive exhibition locations at Ligna. The largest stand covered its core business being supply to the international furniture industry. Like many other exhibitors Homag said: "The most common questions our team received were about optimisation. At the moment, many companies are looking for concrete measures to digitalise and automate in order to cope with the shortage of skilled workers."

Another location held the **CLT & Multilayer Panel Solutions stand**. Ross Campbell, Managing Director Homag Australia advised that Homag Australia is currently considering moving into the CLT segment, which is a growing and exciting segment that Homag is well-positioned to enter with its Kallesoe Machinery arm, which falls under the Solid Wood Processing division of Homag. For more, visit www.homag.com/en/

WOODEN NAILS!

One product that caught my eye was the Beck – Beyond Fastening stand and their **Lignoloc Timber Nail**.

Lignoloc is "the first collated nail system made of the renewable raw material beech wood that combines performance and sustainability perfectly" – and the world's first shootable wooden nail. Thomas Hochtritt (R&D engineer) said Lignoloc is currently approved for use in Europe where the wooden nails are used in timber house frames and CLT, and are also ideal for application in outside wall cladding. Stora Enzo are in fact using the Lignoloc wooden nails to fix their last layers of CLT, to prevent movement, Hochtritt said.

The Beech is modified, veneered and compressed and the nails have a density of 1200kg/m³. The nails are available in three diameters: 3.7mm, 4.7mm and 5.3mm with lengths ranging from 38mm to 90mm in the standard range. The nails can be easily used in softwood like Spruce Pine and it is recommended that hardwood is pre-drilled to prevent potential splitting.

For further information, visit www.beck-fastening.com/en/innovation/lignoloc

The dates for the next Ligna have been set for 26 –30 May 2025.



Above: Weinig's new Hydromat 4400 attracted a lot of attention with speeds over 400m/minute.



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New National Institute for Forest Products Innovation

The government has announced \$100 million in funding.

The University of Tasmania (UTas) has been a centre of forestry research for some 30 years, aligning its academic projects closely with the current needs and future goals of the industry. So there could be no better home for the new Australia-wide National Institute for Forest Products Innovation, which will operate under the name Australian Forest and Wood Innovations (AFWI).

The Prime Minister announced in late June that AFWI will receive over \$100 million in funding from the Australian Government between 2022-23 and 2026-27. It will be based in Launceston at UTas and will have three regional research centres (two to be determined by an expression of interest process conducted by the Department of Agriculture, Fisheries and Forestry and contracted through UTas), which will undertake forestry research and development. The AFWI will put Australia's forest and wood products industries on the front foot, supporting applied research, development and innovation, as well as commercialisation of new knowledge.

The agreement with UTas includes 3 forms of research funding:

Core research funding – funding available for use by research centres that does not require matching funding from industry, which has to be supported by industry.

Research centre dedicated funding – funding that is allocated to research centres that requires matching funding from industry.

National open call research – funding that is available for any forestry researchers in Australia, selected from an annual national call for projects, that requires matching funding from industry.

Matching funding can be cash or in-kind, and can be from industry, or other organisations. Commonwealth funding from

other sources cannot be used as matching funds. Details on these funding streams will be made available shortly.

There will be an annual call for research projects into efforts to: increase domestic timber and wood fibre supply, maximise use and value from our existing resource and learn more about enhancing sustainable forest management as a means to increase understanding and action on how the forest products sector can play a stronger role in being part of the solution to climate change.

The Australian Forest Products Association (AFPA) greeted the news of both the investment and the establishment of the National Institute.

Acting CEO of AFPA, Natasa Sikman, said, "AFPA and the broader forest products sector welcomes this progress on the new AFWI as a step towards more exciting research and development for our sector at a time when demand for different types of forest-based products is growing massively, especially to help the environment and to mitigate against climate change."

In a year that has been largely difficult news for forestry, there was particular appreciation for the fact that government had listened to industry calls for such a body.

"The NIFPI was a policy advocated for by AFPA ahead of the 2022 Federal Election and one that – like the new program announced around plantation expansion this week – was also a bipartisan one. We are proud to see this progress," said Sikman.

"AFPA will continue to engage with the Government and UTAS on the further development of AFWI and help ensure its work is geared towards making Australia a leading forest products nation."

For more, visit www.agriculture.gov.au/agriculture-land/forestry/national/australian-forest-and-wood-innovations



The AFWI will put our forest industries on the front foot

PieceGiver



Powering Productivity

PieceGiver is a fully automatic timber loading system that will supercharge the power and efficiency of PieceMaker taking the automation of timber cutting to an all new level as the two machines work in unison to provide continuous high performance production. The rapid picking cycle from any number of packs

or hoppers delivers maximum speed of production with the versatility to process multiple timber sizes up to 300mm x 45mm LVL. Multinail machinery is Australian made and covers every aspect of frame, roof and floor truss manufacture with the full support of locally based expertise and service.



Winners at the recent NTHA Awards. **A:** Best Frame & Truss Operation – Big River Group MB Pre-Fab (Breakwater Victoria). **B:** Best Hardware Retail Store Over 2500sqm – Porters Mitre 10 (Mackay, Queensland). **C:** Best Hardware Retail Store Under 2500sqm – Pink's Mitre 10 (Clare, South Australia). **D:** Hardware Retail Supplier of the Year – Dulux (Australia Wide). **E:** Industry Icon – Ken Robertson, Fix-A-Tap Australia.

NTHA Awards

The newly formed National Timber & Hardware Association came together to acclaim its industry leaders at its awards ceremony.

As part of the merged associations' combined annual conference in the Hunter Valley, NSW, in late May, the National Timber & Hardware Association (NTHA) brought the timber and hardware industries together to celebrate their best.

The occasion recognised leading professionals and organisations in the timber and hardware industries who are working above and beyond to deliver quality products and services.

NTHA CEO, David Little said the national awards provided a significant opportunity for

"All our finalists and winners have achieved above and beyond."

timber and hardware professionals to be acknowledged on a larger scale: "This event was the first time since the merger earlier this year that our industries have come together and the atmosphere in the room

was electric – with plenty of opportunities to network with a wider stakeholder group.

"Congratulations to all of our finalists and winners who have all shown dedication to their work and achieved above and beyond results for their businesses."

2023 NTHA National Award winners are:

- **Timber Supplier of the Year** – ITI Australia (Australia Wide)
- **Hardware Retail Supplier of the Year** – Dulux (Australia Wide)
- **Best Hardware Retail Store under 2500sqm** – Pink's Mitre 10 (Clare, South Australia)
- **Best Hardware Retail Store over 2500sqm** – Porters Mitre 10 (Mackay, Queensland)
- **Best Hardware Garden Department** – Acheson's Mitre 10 (Forbes, New South Wales)
- **Timber and Building Materials Store of the Year** – Hardware & General (Sydney, New South Wales)
- **Best Timber Manufacturer** – Ultraflex Architectural Linings (Condell Park, New South Wales)
- **Best Frame and Truss** – Big River Group's MB Pre-Fab (Breakwater, Victoria)
- **Industry Icon** – Ken Robertson, Fix-A-Tap Australia



F: Timber & Building Materials Store of the Year – Hardware & General (Sydney, New South Wales). **G:** Timber Supplier of the Year – ITI Australia

For more on the awards and NTHA, visit www.ntha.com.au

In brief

HIA's most recent Affordability Index report contained little good news. "Housing affordability across Australia has continued to decline as interest rates continue to rise. It now requires 1.6 average incomes to service the typical new mortgage, compared to 1.2 incomes in 2019," said HIA's deputy managing director for policy and industry, Jocelyn Martin.

The Index is calculated for each of the eight capital cities and regional areas on a quarterly basis and considers the latest dwelling prices, mortgage interest rates, and wage developments.

"The HIA Affordability Index fell by 1.1% in the March Quarter 2023 compared to the preceding quarter, making housing in Australia 25% less affordable than it was before the pandemic," added Martin.

"Housing affordability poses a major challenge across the country, and the issue is paramount on the policy agenda of all levels of government. It is crucial to identify policies that would work ... and it begins with a supply-and-demand balance. Rising

interest rates are only a part of the story. Housing affordability simply gets worse when housing supply falls short of demand."

Martin called for the passing of the Federal Government's HAFF and reform to state government taxes that have forced international investors out.

Mining giants Rio Tinto and Alcoa have pulled the plug on plans to mine near jarrah forests in WA's South West following backlash from the local community.

Rio Tinto had submitted 10 applications to look at opportunities to mine lithium and nickel near Dwellingup, south of Perth, which attracted 1500 separate objections. Rio's decision followed US-alumina giant Alcoa's promise to establish an 8400-hectare "mining exclusion zone" around Dwellingup. Jarrah forests have been the focus of community action, which has led to the end of WA's native forestry industry, but mining companies remain their greatest threat. See full story www.abc.net.au/news/2023-06-21/rio-tinto-drops-plan-to-mine-wa-south-west-forest-after-protests/102502674

Vale Nigel Partleton. The popular marketing manager from Multinail passed away unexpectedly in May. Professionally, Nigel had a successful marketing career specialising in the construction, home lifestyle and horticulture industries before coming to work at Multinail in 2021. Personally, he was a much-liked man who, while absolutely committed to getting the best for his brand, showed enormous kindness and courtesy. He is much missed.

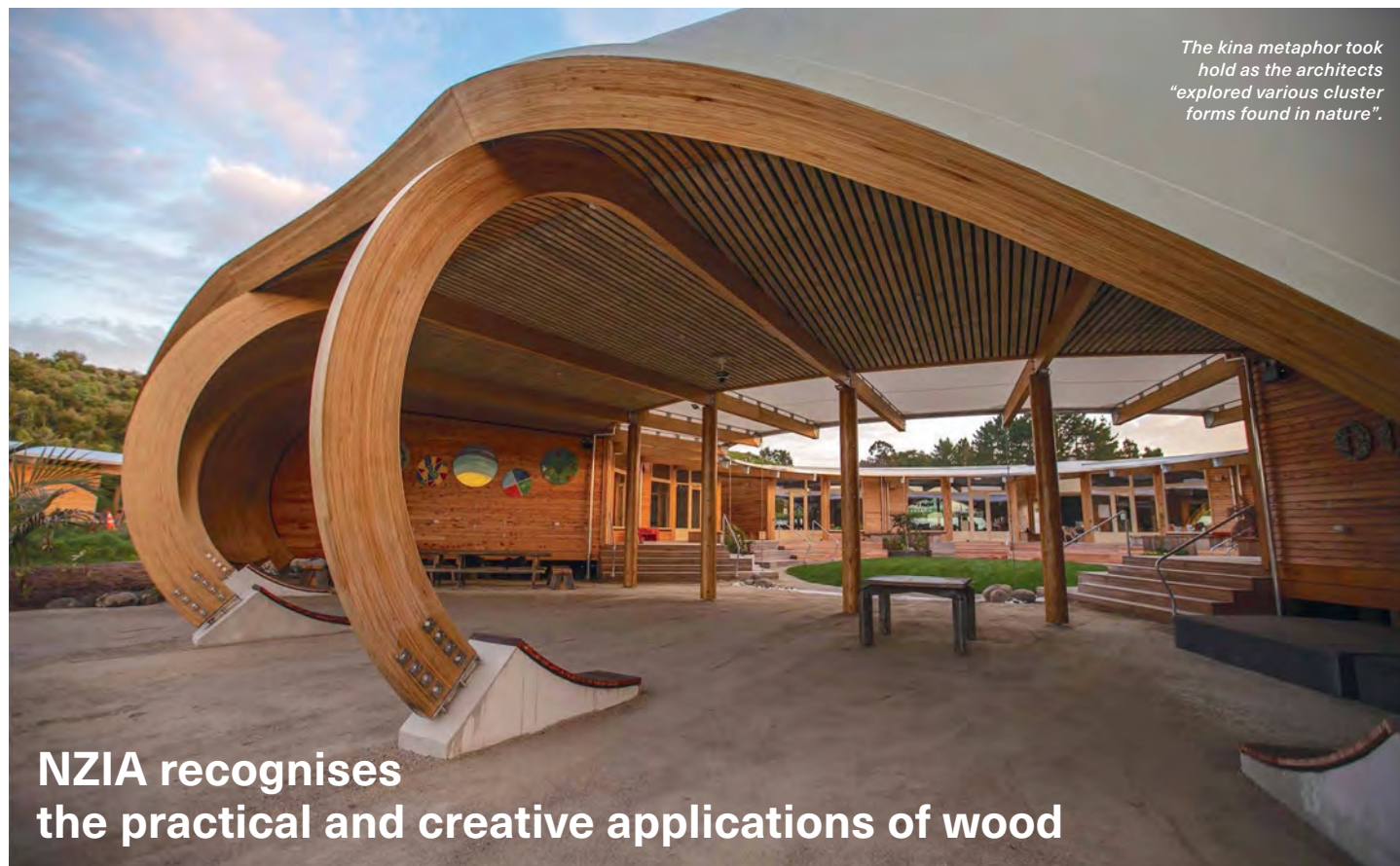


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will reap what the
former has sown.



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The kina metaphor took hold as the architects "explored various cluster forms found in nature".

NZIA recognises the practical and creative applications of wood

Two architects discuss their award-winning timber builds. **By Michael Smith**

Each year the New Zealand Institute of Architects celebrates some of the country's best new architecture – initially via local awards based on the organisation's constituent branches. Winners may then progress to the national awards, which are normally held later in the year.

Timber Trader News invited architects Simon Hall (Director and Principal of Jerram Tocker Barron) and Kyle Arnold (Associate Director at BOON) to comment on their respective award-winning projects.

Hall says the design of Motueka's Public Library (a winner in the Public Architecture category, Nelson & Marlborough branch) "is inspired by the functional and traditional forms of rural farm buildings – taking visual cues from the rich local heritage of horticultural barns and storage sheds".

He adds that the emphasis on a full timber structure was critical to achieving a low-carbon and energy-efficient design: "Materials used to construct the building were locally sourced and fabricated – with the timber components sequestering carbon and therefore resulting in far lower embodied energy than alternative materials and systems."

"The structure includes glulam posts [exposed on the exterior], a central column line, and large-span timber trusses, which allow for an entirely open-plan 40 x 30 [timber] floor plate that can be reconfigured as required."

"Other wood elements include heartwood Douglas fir cladding, radiata pine decking and eucalyptus slats."

Hall notes that screw anchors were used to transfer the load to specific ground points around the building via steel-tensioned cross bracing, thus minimising the need for concrete foundations.

Photovoltaic roof panels for on-site power generation, and soakage areas to deal with stormwater runoff complete the local council's sustainability requirements.

GREEN SCHOOL NEW ZEALAND KINA

Meantime, further north in Taranaki is Green School New Zealand – a winner in the Education category (Western branch), and a triumph of engineered wood design.

Situated between Mt Taranaki and the Tasman Sea, the school focuses on environmental awareness – empowering pupils "to grow up with sustainability and social responsibility at the forefront of their minds".



Above: Green School: delivery and assembly of the curved glulam members was surprisingly quick.

PHOTOS: (TOP) CHARLOTTE CURD; (BELOW) TANIA NIWA; (FACING PAGE) JASON MANN

Arnold, from local architects BOON, says the design continues the visual impact of phase one of the project (completed in 2021) – modern, soft forms and curiosity-invoking objects found in the landscape.

The design brief called for welcoming and nurturing experiences to cater for new arrivals and younger students at the school. “We explored various cluster forms found in nature, like interlocking hexagons of beehives, and radiating leaf and flower shapes,” Arnold says.

“It became clear that the enclosed circular form with a central courtyard and sheltered outdoor learning space was common to each of the geometric systems we looked at. The functional programme was then distributed around the circumference with access via the courtyard and axial outlook to the hills, river and campus surroundings.

“As the design developed and we explored radial curves on the circular plan, the kina metaphor [New Zealand sea urchin] took hold. We embraced the form and patterns associated with this ubiquitous feature of coastal Aotearoa, and its role as traditional sustenance/kai moana for tangata whenua [people of the land].”

The curved glulam members – comprising 24 curved portals, several complex eyebrow members, and curved purlins and battens – became the focal point of the kina design as the building took shape.

“The members were manufactured offsite, but assembled in situ. When Covid was not a factor, the delivery and assembly was surprisingly quick ... given the complex arrangement of the timber structures,” Arnold explains.

“Importantly, a big part of the design allowed for repetition, which also ensured the contractor could make up time as their expertise developed with each assembled section.”

A spokesperson for TimberLab (engaged to manufacture the glulam members) says the mass timber “acts as a natural humidity buffer, creating a healthy learning environment for the students by absorbing moisture when it’s wet and releasing it again when it’s dry”.

Arnold acknowledges that spending the time to resolve the design and the extent of 3D modelling required was important. “Clients need to understand this cost spend upfront is recovered through efficiency of assembly and reduction in waste.

“Building from traditional hardcopy drawings onsite is not really an option for this type of project. The contractors and consultants need to work from a common 3D model, which is sufficiently detailed for fast and accurate offsite fabrication.”

He adds that the carbon sequestration ability of mass timber was an important

driver of the project – “and very much the logic we applied to the first stage of Green School NZ”.

“The design allowed for the negligible use of concrete – reserved for the four foundation blocks of the atrium arches. All other foundations were driven timber piles, further minimising the project’s emissions and carbon count.

“And given the energy-efficient hydronic heating and heat exchange ventilation systems installed, this building will consume an absolute minimum of electrical energy over its lifespan.”

Arnold also notes that limiting the use of adhesives and sealants will reduce the release of VOCs (volatile organic compounds) into the environment, and allow for building disassembly, reuse and recycling at end of life. “Building waste is a massive legacy issue for the construction sector, so to complete a project that seeks to address the issue very much aligns with BOON’s values.”

For more on these projects, visit www.jtbarchitects.co.nz and www.boon.co.nz



Above: Motueka Public Library (Te Noninga Kumu): inspired by the functional and traditional forms of rural farm buildings.

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Above: Skilling up the next generation of Australian timber and hardware workers.

NTHA – your industry partner

Unlocking the potential of the timber and hardware industry through upskilling and training.

In the dynamic and ever-evolving timber and hardware industry, one of the most effective ways to stay ahead in business is investing in the upskilling and training of your existing employees. By partnering with an industry-specific expert who understands their trade, businesses can ensure their workforce receives professional qualifications and knowledge that improves the quality of their people, drives engagement, and increases retention.

The team at the National Timber & Hardware Association (NTHA) can strengthen your in-house skills with training, qualifications and courses from their Registered Training Organisation (RTO #5343). The NTHA team can also find the people you need and train them up the way you want via their Group Training Organisation (GTO) – all under one roof!

NTHA brings years of experience and industry knowledge to the table. As your trusted partner, the team is made up of experts who possess a deep understanding of the intricacies in the timber and hardware industry. By leveraging their experience, employees can acquire specialised skills and knowledge that will unlock their full potential.

DELIVERING TRAINING EXCELLENCE

The high-quality training through NTHA's Registered Training Organisation (RTO) is a cornerstone of its comprehensive approach. The **training programs** are designed to address the diverse aspects of upskilling within the timber and hardware industry – from technical skills related to timber processing, retail – covering the whole spectrum from hardware, sales and customer service to leadership and

management training. The methods employed are tailored to individual learning styles, combining theoretical knowledge with practical, hands-on experience; ensuring optimal skill acquisition.

Short courses provided by NTHA offer a practical and efficient way for employees to stay across best practice techniques and remain engaged in the workplace. These courses deliver focused and concise knowledge, directly applicable to their roles; increasing both their confidence and abilities.

TRAINEES AND APPRENTICES

Businesses in the timber and hardware industry need to bring fresh minds into the industry to invest now for the future. NTHA's GTO serves as a bridge, connecting businesses with eager individuals seeking practical training and career opportunities.

The GTO handles recruitment and employment, allowing businesses to focus on mentorship and practical experience. This ensures trainees and apprentices develop the necessary skills aligned with the business's operations and values.

NTHA's GTO offers a hassle-free pathway for businesses to shape and train the next generation of industry professionals. By partnering with the GTO, businesses invest in new talent while leaving administrative burdens in capable hands. This streamlined approach enables businesses to focus on their core operations while fostering a skilled workforce aligned with their needs, securing a promising future for the industry.

SUPPORT SERVICES

NTHA's commitment to supporting the timber and hardware industry extends beyond training and recruitment. Business can access a range of valuable services under one roof, including WH&S compliance support, industry-specific resources and employment assistance. By consolidating these services, NTHA ensures timber and hardware traders can focus on their core operations while relying on a trusted partner for their workforce development needs.

Our industry's success lies in the hands of its skilled workforce and investing in their development is paramount. Through NTHA, timber and hardware traders can access a wealth of expertise, training, and support services to strengthen their businesses. By upskilling existing staff, providing short courses, and leveraging the GTO model for recruitment and employment; businesses can navigate the challenges of a competitive market and position themselves for sustained growth.

Find out more, visit www.ntha.com.au



Above: This group has just completed NTHA's Timber Knowledge Workshop, with Colin Taranto (right).



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Victorian foresters left behind

While the announcement of the early closure of native forestry in the state was a surprise, a lack of information has hit hardest.

The May state budget was the vehicle for the news: the Victorian government was shutting down native timber logging effective 1 January 2024, six years ahead of the previous schedule.

The government claimed that between the impacts of bushfires and legal challenges and court decisions around forestry operations in the state, there was no prospect of guaranteeing alternative timber supply for mills and no legal option for regulatory reform that could prevent further court injunctions. Rather than continue to fight, the Andrews government folded.

The Premier did announce a broad transition package to help timber workers retrain and find new jobs and support businesses reliant on hardwood supply.

"It's not good enough for us to just cross our fingers and hope for the best," he said. "That's why we're stepping up to give these workers, and their communities, businesses and partners along the supply chain, the certainty they deserve."

Which sounds great, but in the real world, workers in Victorian timber districts have been plunged into uncertainty. To some, the news came as a complete surprise, with many businesses and their workers blindsided. "I found out on Facebook," said single mother of two Ang Savage, who works with beams and columns at Australian Sustainable Hardwood in Heyfield. "It's like we don't even exist."

Construction, Forestry, Mining and Energy Union national secretary for manufacturing Michael O'Connor resigned from the Victorian Forestry Plan Advisory Committee ahead of the decision going public on 23 May. "The union is not interested in being a prop for the state's media unit," he said.

He said members were devastated to hear about commercial logging's accelerated shut-down and it was completely disrespectful and inappropriate they found out about it through news outlets, adding that the announcement was done in a way that maximised stress and strain on those in the industry, and increased the risk of mental health issues.

O'Connor also claimed the government neglected to consult the committee about the measures: "The advisory committee was, quite frankly, a sham," he said, calling the transition plan "government rhetoric. Last time I looked, training wasn't a job," he said. "The government has rushed this announcement (and) hasn't consulted anybody."

MP for Gippsland Darren Chester took three local mayors, Wellington's Ian Bye, East Gippsland Shire's Mark Reeves and Latrobe City's Kellie O'Callaghan, to Canberra to meet with senior Federal Government and Opposition members.

"The meetings were respectful and courteous but the Federal Labor Government has confirmed there is no plan to intervene in this heartless and illogical decision by Premier Dan Andrews," Chester said.

"We met with Minister for Agriculture Murray Watt and a representative of the Prime Minister's office who made it clear that the Federal Government supports the native hardwood timber industry."

"[Canberra] has no plan to intervene in this heartless and illogical decision."

"While I welcomed their support, the fact is they have no plans to get involved in the debate in Victoria and no intention of standing up for blue collar workers in our community."

Chester said the delegation also met with Opposition Leader Peter Dutton and Shadow Minister Jono Duniam who expressed their commitment to a sustainable native hardwood timber industry.

"This is now an issue of national importance because the demand for timber products isn't decreasing and Victoria will simply raid other states for timber or import from other countries with poorer environmental standards," Chester said.

"There will be price impacts on Australians wanting to build or renovate a home, supply chain insecurities, and poorer global environmental outcomes if Australia keeps locking up its native timber industry."

Back in Gippsland, state National MPs Melina Bath and Martin Cameron attended a June protest held out the front of the 150MWh Hazelwood big battery, which was being opened by Victoria's Labor Minister for Climate Change, Lily D'Ambrosio.

A number of local timber workers and log haulers were peacefully seeking a meeting to clarify the transition packages and compensation, especially mental health support. D'Ambrosio left by the back gate.



Above: Protestors hoped to speak with Minister D'Ambrosio in Morwell, but were snubbed.

PHOTO: FROM MARTIN CAMERON FACEBOOK

UPCOMING EVENTS

JULY

GOTTSTEIN UNDERSTANDING FOREST SCIENCE COURSE

This week long forest science course runs 16–21 July and provides an understanding of sustainable Australian forest management, the economics of growing timber for wood production and other forest services. The course covers both planted and natural forests and provides an appreciation of environmental issues and international strategic trends in the forestry industry. **To book, visit <https://gottsteintrust.org/grants-courses/understanding-forest-science-course>**

AUGUST

T&F ENEWS AUSTRALIAN TIMBER SUPPLY SUMMIT

Registrations are open for this summit to



be held in Melbourne on 29-30 August. Topics will include critical forestry issues such as the static softwood resource and loss of native timber supply and a series of global timber experts will be on hand to discuss supply forecasting, EWP and import prospects, housing demand and more. **For any queries relating to the conference, please contact CORP COMM. Email: info@corp-comm.com.au Phone: +61 3 5977 0244**

SEPTEMBER

TIMBER OFFSITE CONSTRUCTION 2023

Themed 'Timber & Technology – The Zero Carbon Future', will explore the growth and benefits of mass and other engineered timber construction. 11–12 September at Crown Promenade Melbourne. **For more, visit <https://timberoffsiteconstruction.com>**

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Psychological safety

While new to many, this idea has emerged as a key business issue. **By Peter Maguire**

P psychological safety is a term that has been getting more and more airtime over the past few years as the issues associated with mental health across the broader community have grown year on year and then accelerated through the Covid pandemic and beyond.

So what does it mean in a workplace context?

According to Professor Amy Edmondson, a Harvard Business School Professor who coined the phrase 'team psychological safety', it means "A shared belief held by members of a team that it's OK to take risks, to express their ideas and concerns, to speak up with questions, and to admit mistakes — all without fear of negative consequences."

In other words, it is about having a workplace where people can be themselves, can put their hand up without fear if they have a concern or an idea or an opinion that they want to share and they receive positive acknowledgement for doing that.

It doesn't mean that people should expect that their employer will act on everything that they have to say but it does mean that they should feel heard and be given a reasonable and timely response as to why or why not any related action will follow.

CONSULTATION OBLIGATIONS

Employers have had legal obligations to consult their people on matters that affect them for decades, but few have done it well.

How often do we find that employee satisfaction surveys tell us the two key areas that employees are most dissatisfied with are 'communication' and 'change management'?

Why is this the case?

Put simply, it is because (again for decades) we have been so focused on managing risks and process that we forgot about people.

We have been taught that we need to:

1. Have policies on HR and WHS matters and procedures to support the policies and
2. Tell people about them and their duty to comply with them and
3. Investigate and/or act on any complaints or breaches relevant to those policies or procedures.

What that has meant is that, when an issue arises, the response is typically of an investigative or enforcement nature which



makes people defensive because they fear consequences.

In turn, that means that we don't have honest conversations because people don't feel psychologically safe to be honest.

THE NATIONAL CODE ON PSYCHOLOGICAL SAFETY

Last year, Safe Work Australia released an updated 'Model Code of Practice: Managing psychosocial hazards at work' and this is set to be the model used by State and Territory Governments legislating a positive duty on PCBU's/employers to eliminate or control psychosocial hazards in our workplaces.

The Model Code of Practice identified 14 psychosocial hazards which are:

1. Job demands (high physical, mental and emotional efforts as well as long low-effort and idle periods)
2. Low job control
3. Poor support
4. Lack of role clarity
5. Poor organisational change management
6. Inadequate reward and recognition
7. Poor organisational justice
8. Traumatic events or material
9. Remote or isolated work
10. Poor physical environment
11. Violence and aggression
12. Bullying
13. Harassment including sexual harassment
14. Conflict or poor workplace relationships and interactions

In terms of managing those hazards, the Code essentially says that you should do exactly what you are required to do with physical safety issues, ie identify hazards > assess risks > control risks > review control measures.

But is that enough?

WHAT THE RESEARCH TELLS US

In a word, no.

Late last year, a report on the findings of four years of research on 'The State of Psychological Safety in Australian Workplaces' was released. This work was undertaken in a partnership between the Australian Human Resources Institute and The Leaders Lab (part of the Michelle McQuaid Group) and others.

The researchers examined the data through the lenses of the 14 psychosocial hazards in the Model Code.

They found that:

- There was a significant gap between leaders' perceptions of the wellbeing support that they were providing to their people and peoples' perceptions of the hazards that they were still experiencing at work; and
- When leaders often express care for their team members, the levels of wellbeing, job satisfaction, performance and safety are more likely to be higher; and
- The top four psychosocial hazards reported were poor change management, inadequate reward and recognition, low job control and poor supervisor support.

In an update on that report just released in June 2023, the #1 psychosocial hazard associated with burnout is 'lack of role clarity' which is generally about unclear, inconsistent or frequently changing jobs and performance expectations, multiple bosses and competing or unclear priorities.

What all of this is telling us is that it is employees' everyday personal experiences at work that are the most significant determinants of psychological safety in a workplace, not whether we have a big HR Department or an Employee Assistance Provider or lots of perks or bowls of fruit or massages or social outings, albeit each of those could play a positive part in your psychological safety/mental health and wellbeing strategy/risk management plan.

WHAT YOU SHOULD DO AS A LEADER

We have developed a little roadmap which is our HEART model for psychological safety and compliance with your positive duty:

H is for HONESTY

Educate yourself about what psychosocial hazards are. Then have a good hard and honest look at yourself, your policies and practices and your peoples' behaviour.

E is for ENGAGEMENT

Consult with your people, educate them and listen to what they have to say. Build a culture of collaboration and shared interest.

A is for ACCOUNTABILITY

Develop and implement positive policies and practical procedures to drive positive changes in language and behaviours and hold everyone responsible for playing their part.

R is for REVIEW

This isn't a transaction. It is a continuing journey and you need to continue to monitor and measure progress in collaboration and partnership with your people.

T is for TRUST

Exercise empathy and vulnerability in leadership. Encourage and recognise diversity and peoples' contributions and perspectives. Build trust, ensuring

psychological safety for all.

THE BOTTOM LINE

There are lots of good reasons to embrace the positive duty that is being imposed and here are a few to get you started:

1. It will make a positive difference in people's lives if it is done well.
2. It will make your workplace much more attractive to people – both those already there and ones that you want to attract.
3. It will boost productivity because people will be more engaged.
4. You will demonstrate compliance with your positive duty minimising risk for you and your business.
5. If you do all of that, you'll be better off yourself. **T**

Peter Maguire is the owner and practice leader of Ridgeline HR, an award winning HRM consulting practice which he founded in 2000. Peter is an acknowledged expert in workplace relations compliance and also a high-performance leadership coach with over 40 years' experience in HRM. Ridgeline HR's byline is Helping PEOPLE in BUSINESS and that is essentially what Peter does – help business people with their people business.



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Association news



ILLEGAL LOGGING REGULATION COMPLIANCE AND INFRINGEMENT ISSUES

As previously reported, since the change of Federal Government the Department of Agriculture, Fisheries and Forestry (DAFF) has been much more aggressive on illegal logging compliance, and the issuing of infringement notices for alleged non-compliance with the illegal logging legislation.

ATIF joined the Australian Furniture Association (AFA) to express serious concerns about DAFF's recent actions

related to illegal logging regulations and infringement notices. Senior industry representatives have expressed concerns that DAFF's actions have been aggressive and disproportionate, causing dissatisfaction in the industry.

Industry representatives have strongly advocated the remedial actions outlined in the paper tabled with DAFF to avoid the prospect of legal action.

ATIF and AFA are of the view that some of the infringement notices appear to be for trivial reasons and outside the scope of the 'reasonably practical' test in the illegal logging legislation, with related fines in the region of \$13,000.

ATIF has identified errors on the part of DAFF in applying the illegal logging regulation. For example, the regulation states

that an importer must, before importing a regulated timber product, obtain as much of the information about the product mentioned in Section 10(2) as it is reasonably practicable for the importer to obtain. However, in their written advice (Illegal Logging Bulletin No 37), DAFF prescribed that all the information listed is the 'minimum' required.

While it is correct that importers should seek this information, it is not required that they obtain all of it. The regulation does not prescribe a 'minimum' level of information to be obtained. The information to be obtained is what the importer can obtain and what is reasonably practicable to be used as a basis for conducting a risk assessment.

ATIF will continue to raise this matter with officials and the Minister of Agriculture.



PHOTO: FOTOKALEINAR/SHUTTERSTOCK.COM

Our industry and members were not considered or consulted in the shock announcement to cease Victorian native forestry delivered in May.

RUSSIAN LOGS AND INCREASED CHINESE TIMBER PRODUCT IMPORTS

The Australian Timber Importers Federation has worked in consultation with the Federal Government in relation to imported Russian product policies, including timber. ATIF has made it clear on a number of occasions that it unequivocally condemns the atrocities been perpetrated by the Russian invasion of Ukraine.

Since the illegal invasion of Ukraine, the European Union and a number of other countries have placed bans or trade restrictions on the importation of Russian products, including timber and logs. The Australian Government has not taken this policy approach but has imposed an additional 35% tariff on Russian imports shipped after 25 April 2022. It is noted that the waiver of the additional 35% tariff applied to in-transit goods and goods on the water that were exported to Australia prior to 25 April 2022, has been extended to 24 October 2023.

The previous announcement by the Russian Government of a ban on the export of logs in 2022 in favour of processing these logs domestically has not been implemented. While many countries have banned log imports from Russia, China and some other countries have not.

Along with logs from other countries China has always utilised significant quantities of Russian logs in manufacturing a wide range of timber products that have been subsequently exported. Evidence suggests that increasing volumes of logs are currently being exported from Russia into China and into some other countries then manufactured into timber products that have then been exported.

The Australian Border Force has confirmed the current practice of relying on country of origin declarations in bills of lading and other import documents. In the case of timber products manufactured in China utilising Russian-sourced (or other) logs, declaring the country of origin as China continues to be the established lawful practice. Of course, under Australia's illegal logging regulations, importers continue to be required to attest that the logs utilised in the manufacture of imported timber are obtained from lawful forest harvesting operations.

ATIF POSITION ON CHINESE TIMBER PRODUCTS UTILISING RUSSIAN LOGS

ATIF acknowledges that individual companies are legally entitled to continue to make their own decisions on the importation of Chinese, and other countries timber products knowing that they are, or likely to be, manufactured from Russian-sourced logs. However, it is ATIF's position to not endorse practices that attempt to circumvent current trade sanctions widely imposed on Russia because of its illegal invasion of Ukraine.

ATIF strongly encourages member companies to verify with suppliers that timber products imported from Chinese, and some other countries are not knowingly manufactured from Russian logs in contradiction of international sanctions aimed at restricting product imports that directly or indirectly support the Russian military aggression in Ukraine.

Furthermore, ATIF recommends that member companies do not import timber products that knowingly contain Russian fibre but seek to source timber products from alternative sources.

For further ATIF-related information contact John Halkett at: john.halkett@atif.asn.au or 0417 421 187.

John Halkett, general manager



SHOCKING VICTORIAN FORESTRY NEWS

The MGA TMA was shocked by the announcement from the Victorian government regarding the early cessation of native forestry in 2024 and concerned about what may happen throughout the country. During the delivery of the Victorian state budget in May, the Andrews government dropped a bombshell announcing that the state would exit out of native hardwood harvesting and production six years earlier than planned.

Our industry and members were not consulted in 2019 when the decision was made by the same government to cease Victorian native forestry by 2030 and were again, not considered or consulted in the shock announcement delivered in May.

MGA TMA sits on a collaborative communication group and an urgent meeting was held the day after it was announced. Members of the group were astounded by the illogical decision made by the government.

It has been fantastic to see how industry has come together to voice their opposition to this announcement.

As we know, Western Australia has plans to cease native hardwood harvesting and production and we fear Victoria is the first of what may be a number of states, to make this move and exit out of native forest harvesting.

We want to use our voice to alert people to the devastating impact that this decision will have on workers and their families and businesses, as well as destroying regional communities that rely on the timber industry and the many businesses related to it.

We have also discussed the impact this will have on consumers who want to use sustainable timber. By reducing local supply, the only option to fulfil demand will be to import. This increases cost, at a time of high inflation – not attractive to the consumer or the economy. Additionally, many countries outside Australia, have far less effective forestry regulations than ours, so this will lead to worse outcomes for the environment.

MGA TMA has activated our existing political contacts in an effort to further mobilise this issue. This is not just a state issue but a federal one and our intention is to take this message to Canberra.

Advocating for our members is an important element of the services that MGA TMA provides. If you would like to learn more about the benefits of MGA TMA membership, please contact us on **(03) 9824 4111** to discuss.

STOP PRESS: We've just announced the dates for our Timber Product Knowledge Training: 22 and 23 August, Melbourne. Spots are limited, register now <https://www.trybooking.com/CJLMP>

*Marie-Claire McKiernan,
national membership manager*



TRAINER OF THE YEAR AWARD

We are pleased to announce that Colin Taranto, NTHA Trainer and a seasoned professional with 38 years' experience in the timber industry, has been awarded the prestigious title of Vocational Education Training (VET) Trainer of the Year in the NSW Training Awards – North Coast and Mid North Coast Region.





Above: Colin Taranto has been awarded the prestigious title of Vocational Education Training (VET) Trainer of the Year in the NSW Training Awards – North Coast and Mid North Coast Region.

This recognition highlights the knowledge and impact Colin has had as a trainer, not just within our organisation but also in the industry as a whole.

The awards, hosted by the NSW Government, acknowledge outstanding achievements in the vocational education and training sector. Taranto's exceptional skills and dedication have earned him the opportunity to now compete at the state level.

I would personally like to say that it is fantastic to see Colin receive this award after years of hard work and commitment to the craft of training. This recognition highlights the knowledge and impact he has had as a trainer, not just within our organisation but also in the industry as a whole.

The NSW Training Awards, conducted annually by Training Services NSW within the NSW Department of Education, aim to honour and reward exceptional achievements in the vocational education and training sector. The NSW VET Trainer/

Teacher of the Year Award specifically recognises trainers and teachers who demonstrate innovation and excellence in providing nationally recognised training to students at a registered training organisation (RTO), or in collaboration with an RTO.

Colin, has made a significant impact on the industry delivering certifications in Timber Frame or Truss Manufacturing and Timber Systems Design at both the Certificate III and Certificate IV levels. He possesses a wealth of practical knowledge, including 25 years in Frame and Truss and 13 years in technical market development/sales with timber manufacturers and wholesalers.

When asked about his motivation to become a trainer, Colin said, "I wanted to give back to an industry that has been a part of my life for as long as I can remember. By

encouraging and developing local talent, I aim to address the significant skills shortage our industry is facing. Sharing my practical expertise and experiences allows trainees to gain a broader understanding of the industry and the people within it."

Colin finds great satisfaction in his role as a trainer, particularly in helping those who genuinely desire to learn. He appreciates the interactive nature of training and the progressive skill development it fosters among trainees.

His achievement in winning the VET Trainer of the Year award highlights his unwavering commitment to vocational education and training. All of us here at NTHA extend our warmest congratulations to Colin and wish him the best as he competes at the state level!

For more on NTHA Training, visit: www.ntha.com.au/training/ntha-training/

David Little, CEO

TDA Timber Development Association

THE FUTURE OF TIMBER FRAMING

The Technical Timber Advisory Group (T-TAG) is a group of senior national timber-framing technical experts interested in developing timber-framed buildings. TDA and Wood Products Victoria (supported by Forest and Wood Products Australia) facilitated a meeting of T-TAG in May, which over 30 representatives attended (face-to-face and online) from all over Australia.

The purpose of the meeting was to discuss what is needed to advance timber framing as the preferred building system in Australia. It was noted that timber framing design had not significantly changed over the past 50 years, with the last major change to building practice and design occurring in response to Cyclone Tracy, which devastated Darwin.

There was collective support to look at what future timber framing might look like. A key focus was given to bringing the design process of timber framing into the modern digital world away from the traditional paper-based system now in place. Consideration was also given to expanding the prescriptive building regulatory solutions beyond housing. It was noted that many house-size buildings are constructed across Australia that aren't houses, providing an opportunity for more take-up of timber framing.

In addition, houses have changed during this period. They are now taller, wider and longer, in many cases, and now beyond prescriptive building standards and regulations. It was identified that the process of achieving this outcome did not necessarily involve significant research. There already

PHOTO: COURTESY NTHA



Above: Attendees at Technical Timber Advisory Group, held on 10 May 2023 (with additional attendees online).

exists a body of knowledge from past and present research, as well as from other timber-framed-rich countries. It was also identified that urgent activity was needed to enable uptake of this knowledge and make it usable and accessible by the construction industry through its acceptance in building regulations.

To this end, it was agreed to consider forming a mechanism to take this initiative forward. The goal is to advance timber framing ahead of competitive materials, a positive step towards creating better and more sustainable buildings.

Andrew Dunn, CEO



**Timber Trade
Industrial Association**

NATIONAL MINIMUM WAGE CASE DECISION

The Fair Work Commission (FWC) has announced an increase of 5.75% to the National Minimum Wage (NMW) and all Minimum Modern Award wage rates effective from the first full pay period on or after 1 July 2023.

The new national minimum wage will be \$882.80 per week for a 38-hour week, \$23.23 per hour and \$29.04 for a casual employee. The national minimum wage order applies to award/agreement free employees, but not award-covered employees.

Businesses should ensure that employees who are paid in accordance with a modern award (e.g. Timber Industry Award) or the National Minimum wage, receive the appropriate pay increase by the first full period on or after 1 July 2023.

Businesses who do not pay in accordance with the award terms and pay over award, annualised salaries or flat rates should check that their rates of pay will still satisfy all their obligations under the relevant award/minimum wage once the increases apply.

TTIA further provided Members with a comprehensive summary of the Decision

and have sent out updated summary sheets to Members. If you require any further assistance on confirming appropriate rates of pay for your employees, please contact TTIA on (02) 9264 0011.

WHAT ARE YOUR OBLIGATIONS TO MANAGE FATIGUE AT WORK?

In recent months TTIA has been asked by members a range of questions regarding managing fatigue at the workplace. The queries have related to defining excessive periods of overtime, the time of taking meal breaks or employees simply coming to work in a state not fit to perform their normal duties. In some cases, employees have been found to have a second job and this has caused concerns for our member.

The following information provides a guide to the issue.

What is fatigue? Work health and safety regulators define fatigue as mental or physical exhaustion that prevents a person from functioning normally, thus exposing themselves and fellow workers to the risk of injury.

What causes fatigue? Fatigue is mainly caused by prolonged periods of physical and/or mental exertion without enough time to rest and to allow the body and mind to recover.

Many factors can influence an individual's level of fatigue – and many are not related to the workplace. An individual's level of fatigue is the sum of all the different experiences and activities, work and non-work, encountered during the day. This can make managing fatigue at work a difficult issue.

What are the effects of fatigue?

Common effects (and signs) of fatigue are:

- Desire to sleep
- Lack of concentration
- Impaired recollection of timing and events
- Irritability
- Poor judgement
- Reduced ability to communicate
- Reduced hand-eye coordination
- Reduced visual perception

- Reduced vigilance
- Slower reaction times

Several studies have compared alcohol intake and sleep deprivation, with results indicating that a person kept awake for 17 hours will perform at a standard comparable to a 0.05% Blood Alcohol Concentration (BAC). Increasing the time without sleep to 24 hours raises the comparable BAC to 0.10%.

Unlike alcohol intake however, effective measurement of fatigue can be more problematic to manage.

Your legal obligations and fatigue The WHS Act requires PCBU's to ensure the health and safety of workers. This includes risk to health from fatigue.

Safe Work Australia in conjunction with safety regulators in each State has issued guidance material to regulate fatigue hazards at work.

If you have a specific situation you would like to discuss, please **contact our National Timber Employers' Hotline on (02) 9264 0011**.

TTIA has a fully functioning in-house WHS unit which is there to support TTIA Members nationally. We have the long-term experience in the timber products industry and proven record both in safety management, documentation, training and legal resources.

For further information, visit www.safework.nsw.gov.au/hazards-a-z/fatigue/employer-responsibilities

TTIA NATIONAL TIMBER IR BRIEFINGS

TTIA will be running IR briefings in July/August of this year dealing with the many recent substantive industrial relations/award changes. Should you wish to attend, **please contact TTIA on (02) 9264 0011 or by email - ttia@ttia.asn.au** if you require seminar dates and venues. **T**

Brian Beecroft, CEO



Above: A group of Australian visitors inspect the Combilift line, while on the factory tour – the high vis jackets were emblematic of the company's safety focus.

Lifting the standards

For 25 years, Combilift has been helping businesses boost productivity by changing the way we use forklifts and warehousing. **By Campbell Mc Innes**

Combilift's Martin Mc Vicar has been having a travel-packed few months. In March, he was at Chicago's ProMat trade show, where he officially donated the company's 75,000th manufactured truck to US-based non-profit humanitarian and disaster relief organisation Convoy of Hope. Then in May it was Hannover and LIGNA, with the newest Combilift machines being put through their nimble paces, before heading straight back to the company's home in Monaghan, Ireland, where he welcomed a group of customers, including me, from Australia as part of Combilift's 25th anniversary celebrations.

It's a lot of international activity for a company that began with just three employees in a town 90 minutes north of Dublin, but the path from that small beginning to Combilift's current global reach has been built carefully.

DELIVERING A BETTER OUTCOME

Back in the 1990s, the Republic of Ireland's economy was referred to as the Celtic Tiger thanks to its booming expansion. This period of rapid growth brought with it obvious needs, a major one of which was to move the goods that were driving that growth.

Enter engineers Robert Moffett and Martin Mc Vicar. Moffett already ran a successful

firm, Moffett Engineering, and had pioneered the ground-breaking 'Moffett Mounty' truck-mounted forklift. Mc Vicar was a young prodigy who arrived at Moffett Engineering for a summer of work experience and went on to become the company's chief engineer before he had even turned 20.

In 1998, the two decided to become business partners and start a new company to fill a significant gap they saw in the market: machinery that could handle long products in an efficient and safe manner. Together, they developed both the side loader model C4000 forklift and a new business: Combilift.

From the start, the team focused on optimisation. The C4000 (C for Combilift and 4000 for the 4000kg lifting capacity) was the world's first engine powered, all-wheel drive multi-directional fork truck. It needed less room to manoeuvre in while moving loads around, meaning business owners had more space they could devote to production. Even right at the start, Mc Vicar and Moffett exemplified what would become the company's motto: Lifting Innovation.

The very first C4000 was sold to a local company in Monaghan and is still in operation today. The C4000 itself is still in production today, and Mc Vicar says it remains one of their most popular models. In that first year, Combilift produced 18 trucks

of which 17 were exported. Despite being a new company, the team knew that growth through exports would be an important part of their future and boldly embraced a market that remains a key focus today.

By 2009, Combilift was selling to 50 countries and was named Irish Exporter of the year. The same year Combilift exported their 10,000th truck to Weyerhaeuser in the US. Now the company's global reach encompasses 85 countries and is still expanding, with the US as its biggest market, followed by the UK and Germany.

Australia is also a very important market, in the top 10 export countries, which is impressive given the comparatively small size of our market. The 60,000th Combilift unit produced was sold to an Australian customer, Metroll Toowoomba, a metal manufacture and building supplier.

At the core of this growth are principles that show the founders' engineering background. Every new unit designed starts with the three central Combilift criteria: saving space, safety and efficiency.

The result is a range that prioritises user comfort, minimises the risk of workplace accidents and injury and is highly responsive to changes in workplace trends, thanks to Combilift's close relationship with its customer base.

MEETING MARKET NEEDS

Martin Mc Vicar spoke with us as part of our tour of Combilift's facilities. He explained that from its beginning, the business has focused on its customers. Not only is customer service at the forefront of its operations, but customer needs and feedback have driven the company's R&D activities.

About 15 years ago Combilift implemented a free warehouse planning consultancy service. Mc Vicar says it was a conscious alternative to the standard sales pitch talking about how they can save their customers time and money while maximising production space – "instead, we show you how."

The team of warehouse planning experts has now grown to 10. Mc Vicar explained how this service – which optimises warehouse layouts and racking choices based on stock flow, retrieval needs and staffing abilities – when combined with Combilift's highly manoeuvrable products, can deliver possible space savings of up to 100%.

We were shown a live customer enquiry during our visit: the Combilift experts suggested two possible options, one showing a potential space saving of 95% and the other 145%, well above the 100% goal.

In addition to the warehouse service, Combilift can tailor each unit to each customer's specific requirements, whether those be narrow aisles, bulky loads or unusual site conditions. There are 70 welders employed in the factory alongside the engineering and design teams, making sure that each unit is perfect for its end use. Robots may be quicker for machinery production, but Mc Vicar says that having a team of welders gives them the flexibility to meet specific customer requirements.

On a broader scale, the global sales team working in its varied markets is where the research and development starts.

Mc Vicar gave an example from a trip he took to Australia. While visiting a Bunnings store, he was asked if Combilift could



Above: A small fraction of the extensive Combilift range was on display in the Monaghan courtyard.

develop a pedestrian stacker to work in very small tight spaces. The company had no experience with these types of machines, so they started from scratch.

Looking at where and how the units would be used, one thing that stood out to the team was that they had to try and develop a pedestrian vehicle that could be operated without having to stand directly behind the unit, to increase safety for operators when placing and picking in narrow aisles.

The design team came up with the Combi-WR. The prototype was airfreighted to Bunnings in Melbourne and, after seeing it in action, Bunnings ordered 40 units on the spot. The Combi-WR Pedestrian Stacker, with a lift capacity of 2000kg and able to work in a VNA aisle of just 2.1m, was immediately established in the market.

GROWTH AND DEVELOPMENT

Mc Vicar has long been open about Combilift's ambitions for growth, but not everything has been easy.

In 2009, the Global Financial Crisis hit Combilift's customer base hard. It was then dominated by construction firms, which suffered badly in the downturn, and he was forced to lay off 43 staff out of 200.

As Mc Vicar regrew the business, he diversified it. A click on the 'Industries' tab on Combilift's home page shows the extent of the current customer base – everyone from e-commerce businesses to poultry farmers, automotive to agriculture. Construction is still close to the company's heart, especially timber with its long lengths requiring specialist lifting, but the business is now as nimble as its machines. »



Above: The Australian guests at Combilift's main office site, with Martin Mc Vicar (far right) and a Combilift truck in the new Combi-green livery.



Above: The first Australian Combilift customers received a special thanks. Award recipients (left to right) David Pullen of Meyer Timber, Jarrod Emmins of Adaptalift and Glenn Tilling of Tilling Timber.

In 2018, Combilift relocated to its new site – a huge campus of 40 hectares with 46,500m³ of undercover factory, which allows the team to produce more than 10,000 units per year on a single shift.

When the next global crises hit in 2020 – a two-for-one of Covid and Brexit – Combilift was ready, delivering solutions for the unprecedented boom in e-commerce globally. Mc Vicar also brought together a team of mechatronic and software engineers to invent the Combi-Ventilate, a device that effectively splits the output of one ventilator over several patients and is much cheaper and faster to produce than additional ventilators. The company produced the device through a not-for-profit spinoff and peer-reviewed research has described it as a feasible method of saving lives.

This sort of community consciousness is not confined to emergencies: the company operates with genuine concern for its community and its team members. Mc Vicar describes his management style as “flat-levelled, with a good flow of communication”. He hopes they have installed a business culture that has a “can-do attitude and continually looks to find solutions”.

Having spoken at length with some 60 or so Combilift staff at LIGNA and then at the Monaghan plant, I found the staff culture is like a close-knit family working together and looking out for each other. When I asked staff members directly, they confirmed this, adding that while the business is large, it's still a privately owned company and when you start working there, you join the Combilift family.

Currently, there are 900 people working for the business, which is debt-free, with 800 located in Monaghan and the remainder across the rest of the world. Only about a quarter of the Monaghan site has been developed to date, leaving plenty of room for future growth, much of which Mc Vicar is already planning.

25TH ANNIVERSARY VISITORS

Chris Littlewood, Combilift's country manager for Australia, was our tour guide in Monaghan. Most of the Australians on the trip were customers there to help celebrate Combilift's 25 years in business and receive thanks for their loyalty and custom.

Timber industry stalwarts in attendance included Glenn Tilling and Adrian Robertson from Tilling Timber; Steve and Virginia Pulbrook with Nick and Katie Gubbins from Gubbins Pulbrook Mitre 10; David Pullen and Jay Cerritelli from Meyer Timber; Kerry and Maura Woodman from the Woodman's Group, plus representatives from Adaptalift (Combilift's Australian agents) and customers from the steel industry, totalling 24 visitors.

Meyer Timber and Tilling Timber each had a truck order in the very first shipment to Australia, way back in 2000. There were three trucks in that container and all three customers have re-ordered Combilift trucks. Mc Vicar presented David Pullen and Jason (Jay) Cerritelli from Meyer and Glenn Tilling and Adrian Robertson from Tilling with plaques, thanking both companies for their ongoing support and loyalty to Combilift – both their own purchases and the referrals they have made to other potential Combilift customers over the years.

The factory tour was unforgettable, not only in its size but also its sophistication. There are four lines in operation, which in 2022 produced 8870 units. Today they produce a Combilift unit every 13 minutes of working production time. Mc Vicar described this as the ideal production in terms of flexibility, giving the benefits of mass production while still allowing for any customisation that is needed by end users.

There are skylights to let as much natural light in as possible. Solar panels power LED lighting, while the extensive roof harvests rainwater into a 42,000-litre tank, which is filtered through a 50-micron filter and used

for all the toilets in the warehouse and office block. A Gilles Biomass heating system has been installed for the spray line, which is Combilift's biggest power consumer. The biomass boiler is fed with both used pallets and willow, which Combilift grows on a site about three-and-a-half kilometres away.

The pandemic's effects are still lingering. Supply of both engines and software chips are two of the current restraints that many businesses are having to work through and this is having an effect on Combilift's overall production volume and lead time, too. While the engines they receive from Japan take around six weeks to ship, currently Combilift is airfreighting engines in, just to help keep the production flowing.

No one who's visited Ireland will be surprised to learn the Combilift team went above and beyond in their hosting. As part of our visit, we were also treated to amazing local sights, including the Giant's Causeway, Titanic Museum, Bushmill's Irish Whisky Distillery and even rally driving training. It's hard to convey our thanks and gratitude to Combilift for their amazing hospitality – which everyone agreed was second to none.

It certainly won't be the last major anniversary for the business, which has grown organically with research, development and investment. As Combilift enters each new segment, they have one goal in mind: to become number one in that segment. It doesn't have to be straight away, it may take a year or two, however once they commit to a new growth area, that goal of being number one does not change.

This year has already seen the launch of two new products: early on it was the Combi-CUBE, a zippy electric forklift with full operator visibility and multi-directionality – able to move in crablike 360° while in motion; At LIGNA, it was a new fork truck, the CB70E. The previous CB range had a lift capacity range from 1.5 t to 4.0 t. The CB70E's capacity of 7 t is said to be the game changer that many have been requesting. It's rumoured there will be yet another new product launched in September this year.

Mc Vicar was a gracious host during our visit, and his commitment to the company was very clear. He and Moffett have no desire to sell and he explained that, while he does not have a written agreement or contract with the business, he has a verbal commitment to work for Combilift for 50 years. Chuckling, he added, “so I am only halfway through my contract with Combilift.”

Fittingly, on a wall in the Monaghan building is a tiled tribute to Combilift's achievements through the years. The last tile reads: “25 years in business... and this is just the beginning.” **T**

9230
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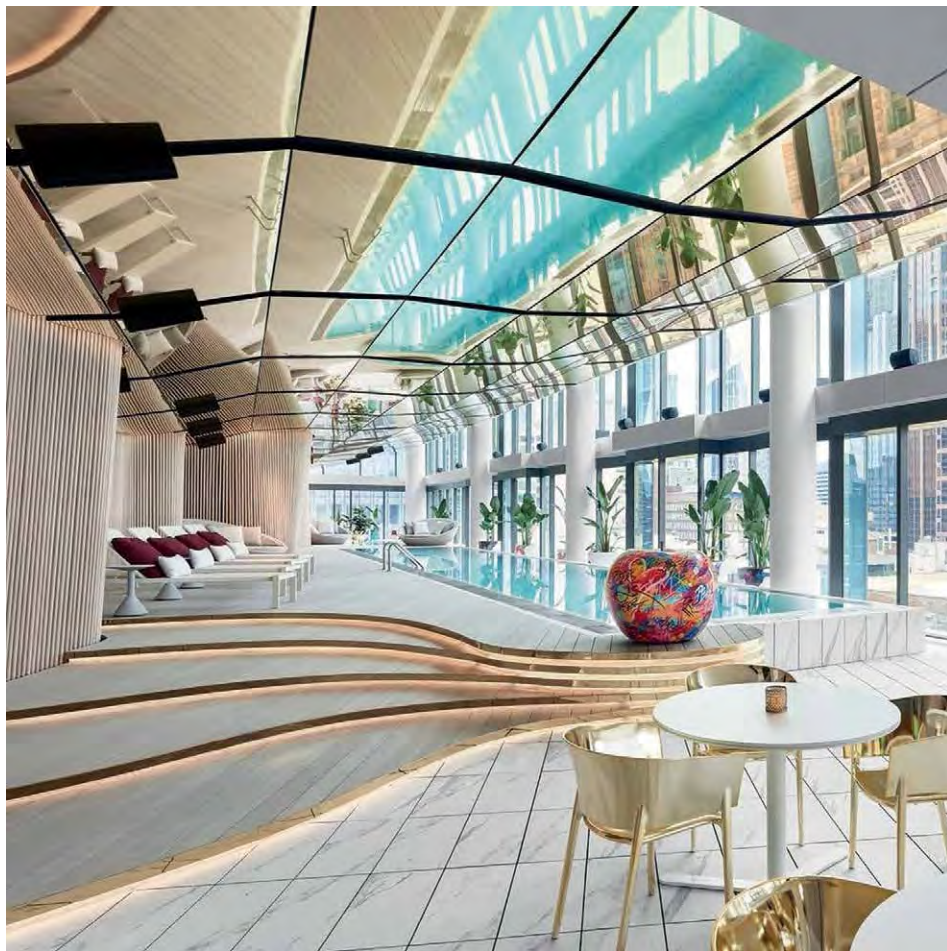
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Above: TimberTech boards are ideal for damp locations such as around the pool at Melbourne's W hotel.

Smooth operator

For applications where timber is impracticable, TimberTech delivers the same look with zero splinters and little upkeep.

Heretical as this statement is, there are times when timber isn't the best option. From wet or damp areas to sites where maintenance budgets need to be minimised, there are applications where a decking material other than timber is ideal.

TimberTech has built its business on this fact, at the same time as acknowledging the aesthetic appeal and popularity of timber decking. Their clever solution is PVC boards (and some composite solutions) that have an attractive timber-impersonating wrapping (known as capping) that gives the boards a convincingly natural appearance.

The best news? Choosing PVC doesn't mean sacrificing environmental goals. "We're the largest vertically integrated recycler of PVC in the US," says Troy Cleyne, Australasia market manager for TimberTech. "We have three plants and take in plastic from multiple

streams. Some of it is the American equivalent of kerbside recycling, some of it is our own plastic waste generated within the business and with leftover product that has come back from our customers and the rest comes from industry.

"Film wrap is actually the largest part of our recycling efforts in the US, which is great as there's so much of it used in construction and related industries. It's usually made of low-density polyethylene, which doesn't have a lot of avenues for recycling, because most products made from recycled plastic use high-density polyethylene. But we can get the strength we need out of this product and take more plastic out of the waste stream."

For the PVC product, the recycled content is around 50%, while for the composite boards it's a whopping 80% including 100% for the reclaimed timber fibres that form part

of the product's core. As for the company itself, 99% of its internal scrap products are diverted into re-use, as is 97% of its water through an on-site filtration plant.

In the US, at the end of service life, customers can return their used boards to TimberTech and they go back into the process for the next batch of decking: Cleyne hopes that in the future this will be practicable in Australia, too.

MAKING LIFE EASY

Of course, markets aren't really built on eco credentials, they're built on money. And while TimberTech decking comes at a price fitting a premium product, there is a lot of money to be saved in the upkeep as it doesn't require repeated coating in future years.

"We've seen a lot of commercial clients come on board," Cleyne says. "Some of that is because we offer a longer warranty. While timber and composite boards might have five- or 10-year warranties, our PVC boards have a 20-year warranty.

"A big market for us is shopping centres. We did a large PVC decking area around the food court at Westfield Miranda. They were spending \$11,000 a year oiling their decks and seats; now they just hose our product down. That's all that's needed."

Big residential builders are also keen customers. "We sell a lot to Multiplex in Victoria and New South Wales," says Cleyne. "They use it in many of their commercial applications for wet areas around swimming pools and for interiors where they're wanting to save on maintenance. Although it's a high-end product, the benefits that flow from minimal upkeep actually save them money."

Almost all of these are applications where timber would be unsuitable or uneconomical, so TimberTech delivers a complementary rather than competing product. It's one that respects its inspiration, spending a lot of research money and time on delivering true-to-life finishes. "I've had the Miranda centre management ring me to ask where their client can purchase the spotted gum we used in their deck. And I've had to say, it's actually not spotted gum..." Cleyne says.

At the manufacturing plants in the US, there are significant scientific/R&D teams that are constantly developing better-looking and better-lasting finishes. While many polymer and composite boards are stamped/impregnated with a wood texture and colour pattern that repeats regularly, TimberTech PVC board has a brushed finish.

"It's a matt finish with a shifting set of colour flecks that give the boards a timber grain, so it looks more natural," says Cleyne. "Every decking board is different to the one that's just been laid. The browns might be

darker or there could be flecks and strokes of yellow or grey or other colours going through the finish. It's really painterly and it gives it that genuine timber look."

The finishes are so impressive that Cleyne has been selling product that isn't even launched in the Australian market yet. "We have a new Landmark collection that resembles cross-cut timber and it will be arriving here in August, but we've already got so many orders on it. There's one colour – French white oak – that has orders from both commercial and residential customers. It's really exciting," he says.

Cleyne makes a point of visiting architects and specifiers regularly, which is part of what he considers to be a real maturation in the decking industry. "A few decades ago, people were spending all their money on home theatres and big lounge rooms and the deck was an afterthought," he says.

"Now, people are very serious about their outdoor living. They want the pizza oven, they want the outdoor kitchen and heaters so they can use the deck in winter. It's had a real impact on the industry, including the recent formation of the Australian Deck & Handrail Association which I'm a part of."

Cleyne notes that this new focus on decks has led to a general uptick in quality, as more carpenters focus on decking installation. "We've seen some really good carpenters say, 'we're not going to do general carpentry work anymore. We're going to focus on being decking installers.' Our biggest installer, who's probably the most successful installer in Sydney and nearby, is called the Aussie Decking Chippie. He's on social media, on Instagram, and he's just enormous there. He's got such a big following."



TimberTech boards used in a Newcastle NSW garden setting.

Social media and reality shows have also helped to popularise decking trends from larger markets.

Social media and reality shows on streaming services have also helped to popularise decking trends from larger markets, particularly the US. "People see what's happening with different coloured 'picture frames' around the deck, patterns in the deck and so on," Cleyne says.

"One of our big advantages is that many of those things are easier to do with PVC board. We've now got decking installers that have heated blankets they set up on the driveway and they heat these boards and bend them gently into circles and curves. There's a beautiful job an installer did recently in Newcastle with a circular firepit and curved lines on the stairs. I've been showing these jobs to architects and they're just blown away by the possibilities. And now they're starting to design these lines into some of their applications."

TECHNICAL DETAILS

Weighing at around 16kg per 6m length, the PVC boards are surprisingly robust. The main part of the board is the core which delivers the strength and stability, surrounded by capping, a thin film that carries the brushed timber finish and protects the core from UV damage and moisture.

"All our capping is a full enclosure," says Cleyne. "Some companies do it on three sides only, to save money, but we do a complete wrap for several reasons. On the »



The PVC boards were warmed under heated blankets until pliable, then bent to form curves and a circular firepit.



This large outdoor area at a shopping centre in Miranda is saving \$11,000 a year on oiling after switching to TimberTech.

“The TimberTech boards have achieved a BAL 29 rating, which is the same as spotted gum and other high-end hardwoods.”

composite boards, it's a vital part of keeping moisture out, because if you have any timber content and you add moisture, you will have expansion and contraction. On the PVC board, it protects the plastics in the core, which can become brittle if they're exposed.

“Additionally, the all-round capping means you have a seamless, stronger surface, so it looks great for its whole service life.”

At such a light weight, the boards aren't structural. They're specified to be laid on a frame with maximum 400mm centres.

“We have a series of compatible fastening systems and any standard subframe will suit; treated pine, hardwood, steel – aluminium is becoming very popular,” Cleyne says.

“The one watchpoint is those 400mm centres, because some installers in Australia are used to using 450mm centres, the same as in house frames. But those give just a bit too much bounce in the deck, because the boards are flexible. We use the US standard of 400mm centres, which usually means one extra joist in a deck, and we've found that some installers now are using 380mm spans as a matter of course, because that gives them the most economical timber cutting.”

While TimberTech is a US product, the company has invested heavily in Australian

testing to make sure it is suitable for local conditions. “We've had it tested at Warringtonfire, which was a significant investment,” says Cleyne. “It's about \$25,000 per test and we needed separate tests for

each type of frame, but it has achieved a BAL 29 rating, which is the same as spotted gum and other high-end hardwoods.”

The board ranges have also been slip-tested at the CSIRO or Melbourne's ATTAR and achieved a P5 slip rating, which is the best possible resistance to slipping.

“It's a particular advantage for shopping centres and any commercial buildings with old or young people,” Cleyne says, “because that rating will satisfy their insurers. We had the Miranda centre management team call up after a woman had a slip there and when I sent him the P5 certificate, he was: ‘beautiful, we're covered.’”

The PVC boards are also barefoot-friendly. “One issue I have with the wood-plastic composite is that in our summers, the boards get extremely hot,” says Cleyne. “If you have a typical summer in much of Australia with a run of 35 degree days, those boards can reach 60-65 degrees because they hold the heat. You can't walk on them comfortably and they're a risk to pets as well.

“The PVC boards disperse the heat immediately. In fact, on a hot summer day, these boards are up to 30% cooler than any other decking product, including timber. And with no risk of splinters and no need to spend a few days a year stripping, sanding and re-oiling.”

Cleyne laughs at this point. “Our marketing slogan is ‘Timbertech: everything wood should be’. Which is a cheeky thing to say to your readers. But it is the ideal product to fill applications where timber options won't work, while keeping the look of wood.” **T**

For more, visit www.timbertech.com.au



Above: TimberTech's extremely high rating for slip safety makes it a particularly good choice for public areas.

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Jarrah is a long-lived majestic tree, often at least 500 years of age and easily 40m tall with a trunk 2m across and rough, very dark brown bark.

Woodwise: Jarrah

This West Australian local is a quintessentially Australian, internationally renowned hardwood.

Known by a simplified form of its name *djarraly* in the Noongar language, quintessentially Australian jarrah trees are native to Western Australia and well adapted to harsh and dry conditions.

Jarrah is a long-lived majestic tree with many specimens at least 500 years old and up to 1000 or more and easily 40m tall with a trunk 2m across and rough, very dark brown bark. Jarrah grows in the southwestern corner of Western Australia, from the ranges east of Perth down to Albany.

Botanical name: *Eucalyptus marginata*, named for the thickened border or 'margin' on the leaves.

CHARACTERISTICS

In pre-Colonial times, there were millions of hectares of jarrah forest. Colonists quickly saw the value in the rich red jarrah wood, which is immensely strong and resistant to rot, insects, wind and water. It was eagerly taken up for shipbuilding and harbour pilings. When convicts arrived en masse in Western Australia from 1850, the flood of cheap labour meant that jarrah could be exported across the British Empire to feed an expanding appetite for railway sleepers and other durable infrastructure, such as telegraph poles, wharves, and industrial construction.

Many of the jarrah forests are now reserved and little to no jarrah is currently grown in commercial plantations. While some recycled material is available, this is also a restricted resource as it relies on the demolition of existing buildings.

APPEARANCE

Jarrah is renowned for its rich red colours that deepen over time. The heartwood ranges from deep browns to burgundy hues. Jarrah sapwood exhibits shades from pale yellow to pink-orange. The timber displays a moderately coarse and even-textured grain. The occasional incidence of wavy and interlocking grain produces some samples with a sought-after fiddleback pattern, making it an appealing architectural and design feature timber.

APPLICATIONS

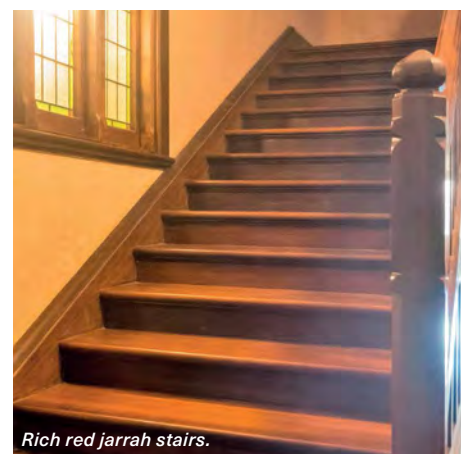
Jarrah's natural properties include high resistance to weather, rot, termites and even marine borers, making it valuable for a range of outdoor uses. Its density also makes it fire-resistant. It can be used in wharf and bridge construction, railway sleepers, cross arms, poles and piles. Jarrah's decorative qualities make it prized for use in furniture, turnery, joinery and parquetry.

A highly versatile timber that turns and

bends well, Jarrah has often been featured in the manufacture of high-quality indoor furniture and weather-resistant outdoor settings, though these often lose their colour.

WORKABILITY

Jarrah timber maintains its reputation as one of the world's most recognised and renowned hardwoods. It is easiest to work when green. Once seasoned, it remains relatively easy to work, despite its density, if tools are maintained in sharp condition. It can be glued and satisfactorily steam bent, but care must be taken when using nails, due to the density. Jarrah timbers readily accept paint, stain and polish. **T**



Rich red jarrah stairs.

Further information

Content based on the WoodSolutions website. For more information, visit www.woodsolutions.com.au/wood-species/hardwood/jarrah

PHOTOS: SHUTTERSTOCK; JOHN HALKETT

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PROGRAM HIGHLIGHTS

- **Keynote Address: David Gardner** – Chief Investment Officer, Forestry of London, UK based Fund Manager, Gresham House – *Climate Change and The Role of Forestry in Global Decarbonisation*
- **Housing Industry Chief Economist** – *Are the Australian Construction & Building Industries Increasingly Reliant on Timber Imports?*
- **Statistics & Economics Manager of Forest Wood Products Association, Kevin Peachy** – *Future Market Dynamics & Supply Chain Implications*
- **Chair of Timber Merchants Australia, Peter Alexander** – *The Role of Timber Merchants Australia, it's Position and Concerns on Supply*
- **Managing Director of SFM Agribusiness, Andrew Morgan** – *Australian Historical Present & Predicted Domestic Softwood Supply*
- **Director of Indufor Australia, Andrew Morton** – *Australian Historical Present & Predicted Domestic Hardwood Supply*
- **CEO of Engineered Wood Products Association Australasia, Gavin Matthew** – *The Need for EWP's Supporting the Supply Gap*
- **Communications Director of Australian Forest Products Association (AFPA), Joe Prevedello** – *AFPA's role in Boosting the Forestry Estate, Timber & Wood Fibre Supply*
- **Global Timber Supply Experts and International Speakers from Europe, UK, New Zealand, China, & Malaysia** – *Opportunities to supply the Australian Solidwood Sector and the Future of the Timber Supply Chain*

FIELD TRIP

On day two of the conference, we invite guests to join the Timber & Truss Field Trip to Geelong to visit frame & roof truss manufacturing plant **Big River Group**, who recently won the best frame and truss operation in the country! The second stop is to the woodchip processing & export facility **Midway**, a pioneer and major woodchip exporter to North Asia from Geelong and several other Australian ports.

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Earning EWP trust

Australia has some of the most reliable EWP importers in the world and an increasing number of great manufacturers. So why are we still seeing non-compliant product? **By Donyale Harrison**

Stephen Chehab, director of Allied Forest Products, is on the phone. "Have you seen that photo?" he asks. "It's doing the rounds. Hang on, I'll send it to you."

There's a ping from my inbox and when I click, the picture (see page 36) is there: a second-storey floor system, with multiple I-joists snapped and snagging. There is a stencil on the side of the I-joist saying ASNZS 4357.0, referencing the standard for structural laminated veneer lumber (LVL), but this is anything but compliant. I use some language that my grandmother would have called unbecoming of a lady.

"Yep," says Chehab.

RISKS OF FAILURE

There is an enormous amount of high-quality LVL and I-joist in homes around Australia doing the job it was designed for perfectly.

But in recent years, supply issues have led to some smaller companies bringing in product that is not compliant and not fit for purpose.

TTN spoke with three players in the Australian EWP market: Leon Quinn, national sales and marketing manager for Tilling Timber and principal engineer George Dolezal from Meyer Timber – both of which firms are among the largest wholesalers of EWP in Australia and who run internal engineered design services – and Chehab,

whose company distributes Metsä LVL and I-joist in NSW and Queensland. We discussed how this problem has arisen, how reputable brands avoid it, what the risks are and – recognising that 99% of the engineered wood product story is a positive one – what builders could be achieving if they were working with companies that had better reputations.

Chehab has some compassion for the team behind the failed floor. "The last two years of timber shortages caused some timber yards and carpenters to source their own EWP products from overseas rather than have their business foreclose," he says. "It was a very difficult time for supply."



Stephen Chehab at Allied Forest Products (front left) with Kieran Chehab, in front of Garry Skidmore (left) and Ricky Timms.

PHOTO: COURTESY ALLIED FOREST PRODUCTS

He actually spoke with the carpenter who had installed that floor system. “He told me he did the take off and sent the quote out to three timber yards,” Chehab says. “The cheapest quote got the order and that was what he was supplied. He installed them and, unfortunately, the floor system failed. The quote was \$300 cheaper than the other supplier, who would have supplied him with Metsä Finnjoist, which is very reputable. He’s out of pocket around \$200,000 for that job.”

Rectification costs are an immediate problem for individual companies, but the negative effects of failed EWP such as LVL and I-joist go well beyond.

“Our concern is, we don’t want builders and consumers to lose faith in LVL or I-joist,” says Quinn. “Because if they start seeing LVL or I-joist of any brand failing and that gets shared around – and that photo was all over social media – at the end of the day, the whole industry loses. People lose trust and think ‘well, I’ll stick with a non-timber product.’”

Quinn says the risk to the parties involved in the build simply isn’t worth any savings. “If I’m a merchant and I’m buying LVL from a new supplier and I’m not confident in their certification and compliance, I am opening myself up to additional risk,” he says.

“So if anything goes wrong with the performance of that product – and we’ve seen it can – all parties are held jointly and severally responsible. When the insurance company or the law come after everyone involved in that chain, there are now fewer people because the merchant is also the importer, so that’s more responsibility and more cost to fall on them.”

Dolezal points out that some parts of the chain will be exempt from responsibility if another party has made a substitution that isn’t appropriate. “Remember, LVL doesn’t have a defined set of properties,” he says. “If you’re using LVL, the engineer is designing to the properties that the manufacturer is publishing. And those properties are different between manufacturers. So to the letter of law, you can’t take your bit of E13 LVL and substitute it when someone else’s bit of E13 LVL has been specified.”

Dolezal acknowledges that when there are supply issues with particular brands, it’s almost always possible to find a replacement, though this involves changes that must be checked either through software or design engineer, but cautions against thinking it’s like for like, even with known brands.

“The structural properties of LVL vary slightly, in general, but the nail plate-holding capacity of LVL can vary quite a bit between two E13 pieces of LVL from two different producers,” he says.

“The nail plate companies test for this and



Above: Trusted brands, including Tilling SmartJoist, remove risk at every stage of the building process.

provide trustworthy, accurate design and nail plate information for all the LVL suppliers who are currently in their software. But if you make substitutions, they’re not responsible for any problems that arise from that.”

The concern for new importers who are bringing in packs of LVL from unknown manufacturers is that they don’t have the technical and specification resources behind them to back up the claims being made.

“They’re riding on the backs of span tables, or software from reputable suppliers,” says Dolezal. “And you can do that with a piece of MGP 10 or a piece of F5 timber because the properties are defined in the Australian standard. But in terms of LVL, there is a different set of properties.

“That becomes especially important when you go to roof trusses.”

CONFIDENCE IN COMPLIANCE

All three suppliers understood that it’s been a difficult few years, between the pandemic and the war in Ukraine. They also emphasised that they are in no way suggesting a closed shop approach to supply. They’re importers themselves and know that bringing new supply into the chain is important.

“Some people write off all Chinese LVL as cheap,” says Chehab, “and that’s damning a lot of good suppliers for the bad work of others. We sourced very good Chinese product during the worst Covid shortages, from a mill that was formed by some old >>



Above: When this photo of a failed floor system did the rounds, reliable suppliers knew there was a problem.

“That gives us a very high level of assurance as opposed to buying directly from a mill overseas where they might just rely on one certificate.”

employees of Carter Holt Harvey.

“They replicated the quality control and testing processes that CHH use and that makes it very easy to get all the data required for third party testing and compliance and to cross-reference that data with the span

tables, installation guides, fixing and cut out data that the mill produces. We had our engineers sign that all off and were further backed with a \$40 million product liability insurance policy. We also make sure that all species used in our products are legally

sourced from PEFC or FSC certified suppliers.”

Tilling and Meyer take even more multi-layered approaches. Dolezal went through the Meyer Timber process: “We have two senior timber engineers, Afzal Laphir and myself, that go through and audit all the quality data that comes from the mills. We also regularly visit the mills personally. In fact, we’re in Europe at the moment visiting suppliers we haven’t seen for a few years.

“On top of that, we have our own test lab in Victoria so when product comes in, we can pick out random pieces and test them. And on top of all that, at regular intervals we still get random product out of the racks and have it tested by an independent testing laboratory. That gives us a very high level of assurance as opposed to buying directly from a mill overseas where they might just rely on one certificate.”

Larger importers do have the advantage of more resources and, because their orders are larger, they are able to have more impact on the manufacturers they are working with.

“At Tilling, we have a reputation for being very conservative,” says Quinn. “And that’s true, we’re conservative *and* proactive. Our method is to reach up to the mill and to engage very closely with them right down to



Afzal Laphir (left) and George Dolezal inspecting compliant I-joist at its manufacturing plant in Europe.

PHOTOS: (TOP) FROM SOCIAL MEDIA, COURTESY ALLIED FOREST PRODUCTS; (BOTTOM) COURTESY MEYER TIMBER



Above: The team at Allied Forest Products; back row L-R Andy Meridith, Matt, Ricky Timms, Anthony Soper and Garry Skidmore. Front row L-R Mohini Reddy, Daniela Chehab, Stephen Chehab, Kieran Chehab, Don Martin, Tony Im and Gordon Roberts

the way they lay up the veneers to make sure it meets our expectations when it comes to results and to third-party audits. That might mean making recommendations re their processes, but that's the sort of close oversight and engagement we want from a private label manufacturer that is placing our name on its product."

He points out that at a conservative estimate, there is more than \$2 billion worth of Tilling product holding houses up across Australia. "That didn't happen by accident," Quinn says. "And it means we work to uphold that reputation. All the big, reputable distributors are similar in that we take this very seriously and will have a very conservative approach to what's coming in."

Quinn notes that there are reliable mid-sized companies that either work with their own in-house or contracted engineers or have strong relationships with suppliers of international renown that can provide reliable third-party audits for their product. He is clear that it isn't only the biggest importers that are trustworthy.

"However," Quinn cautions, "some new players don't have the resources of those firms, but are still attempting to occupy the same market. Compare a business like ours,

"All the big, reputable distributors are similar in that we take this very seriously and will have a very conservative approach to what's coming in."

we have Craig Kay, Yuri Huerta and Jimmy Chang: in-house engineers furiously doing testing and all of these compliance activities to ensure that we're getting the quality we need. Then look at a trader that obviously doesn't have an engineer, can't tell you what their audit system is and can't satisfy you that their testing and quality assurance system is robust enough because they don't have the resources. What is that grey area of risk you're stepping into?"

That includes ethical as well as physical risk. Some products drive profits to places you would rather they not go, a situation that's become very real in recent years.

"We moved Australia's largest LVL supply chain out of Russia, and we've also committed to paying supplying mills higher rates to guarantee non-conflict timber," Quinn says.

Tilling was by no means alone in having to change quickly. "We had to make the difficult

but important decision to cease purchases of Russian spruce and larch species veneers used in our LVL," says Chehab. "Luckily, this led to our wonderful partnership with Metsä. All of the trees that Metsä use in their LVL production are from their own plantations. Every stick they produce can be tracked back to the tree it was cut from. All of their veneers are PEFC, FSC and ESG compliant. They batch test approximately every hour of production in their in-house laboratory. They are audited regularly by Eurofins, a third-party auditor. And all of this data is made available to Allied Forest Products."

CERTIFIER CERTAINTY

"Nobody wants to hold extra risk," says Quinn. "Building inspectors are becoming quite intolerant of any variation that concerns or startles them. Right now in particular, they have no appetite for being on a site and



Trustworthy product is vital for maintaining confidence in timber across the industry.



“He was told by the I-joists were 100% conforming. He’s now getting lots of excuses of why they can’t hand over compliance documentation.”

asking ‘What the hell is that? Where’s the justification for that?’

“So all of the consumer warranties and similar that follow the SmartFrame brand, or branded product from other leading wholesalers – those are deeply trusted warranties and certainties that flow with those products.

“And that’s not just because people are confident in the legal compliance, it’s about the strength and conservatism that follows the brand. We are all very protective of our brands and certifiers know that.”

The three suppliers admitted that caution from certifiers can make introducing new products difficult, even when they come with comprehensive and transparent testing data.

“Very few certifiers are engineers,” says Dolezal. “We quite often have certifiers not sure about certain products and asking questions. Historically, that’s meant that when we have a new product, we give them all the information and go through a process.”

He shares the example of Simpson Strong Tie Truss Screws, which Meyer market.

“When they first came out, we visited certifiers individually and had a talk-through with them, showing them the product before we brought it into the market. So it wasn’t something that just arrived,” Dolezal says.

“We’ve done this regularly when we’re trialling new products: we target a frame and truss plant or a merchant who has a good relationship with the builder and then talk with the builder, find out who their building certifier or surveyor is and actually go out to talk with them before we start the trial. Because then they’re fully aware of what’s happening. And you can quite often overcome any hesitancy or any issues they’ve got with it before you put new product into the market.”

Even then, there are still sometimes problems. “As recently as four months ago, Afzal had a certifier down in Victoria who was questioning the use of Truss Screws, and we’ve been selling them since 2016,” says Dolezal. “Even a product that has sold hundreds of thousands of units into the market can have issues. But the benefit for us is that we have that history behind us. So whenever

there is anything unusual happening, there will already be a tested solution in place, which has had multiple people agree on it and which has been standing for years. So it’s easier to give an assurance that everything will be OK.”

For suppliers wanting to bring new products into roof or floor truss applications, Dolezal says that it is up to the manufacturer to get the product into the nail plate company software. “If those suppliers approach the nail plate companies, those companies will then give them the process,” Dolezal says. “It is expensive, because it involves passing that process for all three companies, but that’s a reassurance in itself as spending that money is something that an opportunistic trading house won’t go and do. Because they just want to make as much money as they can while they can and then they walk away.”

The carpenter who spoke with Chehab has learned his lesson the hard way. “He’s installed 15 houses with I-joists from another importer that can’t prove compliance and the certifier won’t sign the carpentry work off,” Chehab says. “He was told by that yard that the I-joists were 100% conforming. He’s now getting lots of excuses of why they can’t hand over compliance documentation.

“That’s why we’re happy with our current arrangement being backed by a global supply manufacturing company. Metsä Group was founded in 1947 and employs over 9000 people so they’re a good partner to have in >>



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Above: Afzal Laphir (left) and George Dolezal watching LVL being tested at the quality lab of one of Meyer Timber's European suppliers.

supply assurance. As for Allied, we're a timber family. We started our business in 2009 and have built a team with over 200 combined years of experience. Kieran and I were born into the timber industry. Our father started in 1972 and mum's side of the family has been sawmilling since 1836."

In addition to wanting to protect the family name, Chehab has found direct benefits to Metsä product being included in popular software packages. "It makes things easy for our customers. They love the product knowledge and service we offer and that we can produce the necessary compliance data on the spot when asked. We're completely transparent and that's why our customers have full trust in us," he says.

"In NSW in particular, that's vital. We've seen first-hand floor systems failing and certifiers not signing jobs off. And this will become more common – Building Commissioner David Chandler has put a team together to look closely at the compliance of new freestanding residential houses. We were invited to give a presentation on EWP compliance to his team recently and they are taking it very seriously."

Several of the biggest distributors including Tilling and Meyer have their own software packages that provide part of their sales package. "Builders have always had the confidence, as have any approving authorities, to look upon the outputs and directions of our

software and know they'll deliver a bankable engineering outcome," says Quinn.

"In a way, that's defined our business. We don't sell on how much per lineal metre, we sell on a package: here's all the timber, the brackets, the pre-cut holes, everything you need in a kit at one box price. And here's the design that underpins that system. We deliver that to site and we're confident you'll be happy with the performance on site, the buildability and the in-situ performance and price, and the certifier will be happy, too."

Even with the best systems in the world, there can be problems. "We do sometimes find discrepancies," says Dolezal. "That makes us dive in deeper and try and work out exactly what's happening. We had a case with a slightly lower value in some of the structural properties than expected. So we talked to the mill and learned they harvested from a different area, because they had an extremely bad winter and they couldn't reach the area they usually log. In that new area, the trees had different properties because they're growing in different soils, and that made a difference in the layup of the LVL."

"Saying that, all those values were still above the minimum. Whereas if you just do one round of testing, it might meet the requirements, but that sample might be very much on the high side of the variability and that company might end up supplying product that's a lot lower than what they're

advertising. But no one has any idea because they're not doing those continual checks."

OPENING OPPORTUNITIES

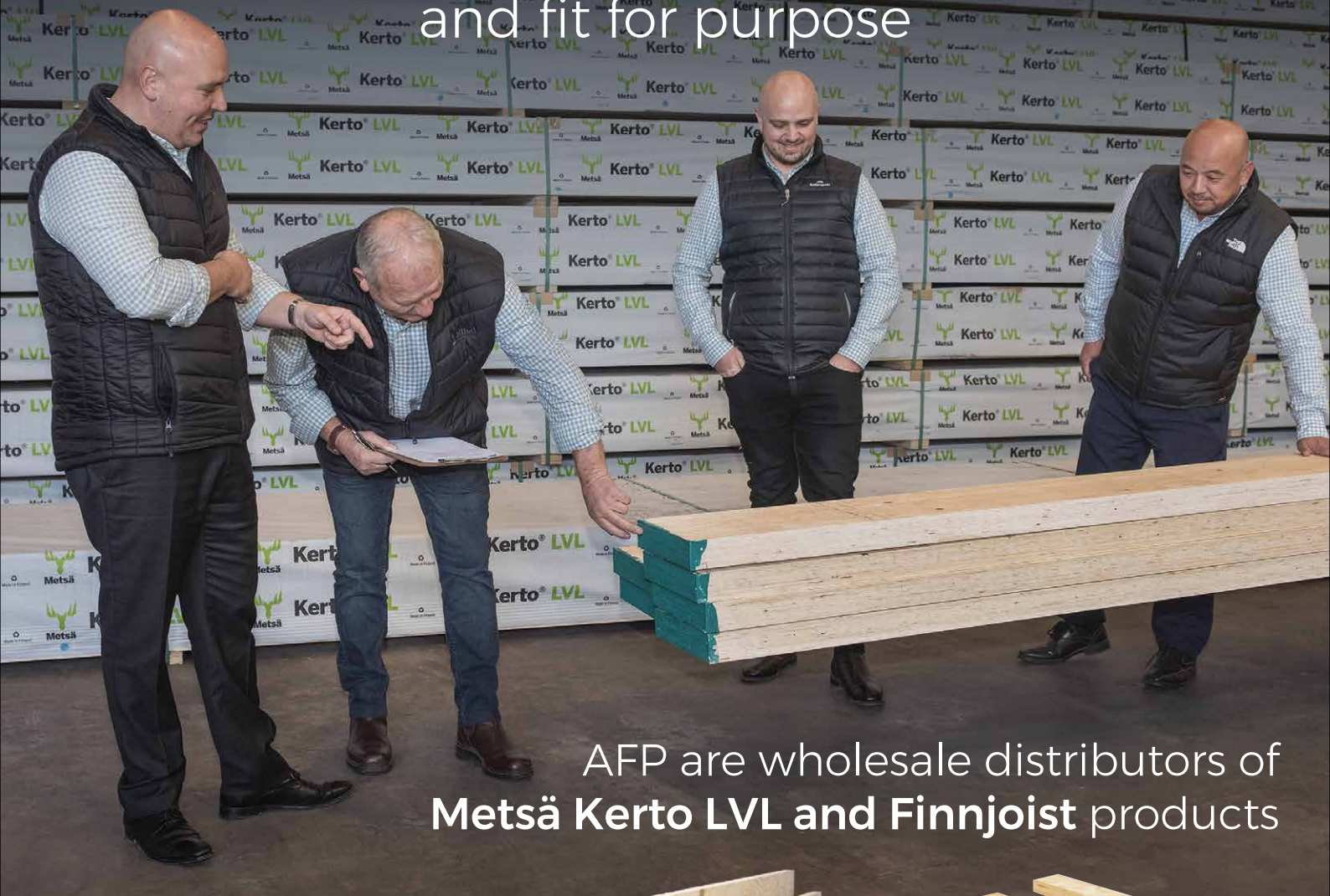
"It comes back to protecting the industry," says Quinn. "The industry has spent years pushing for governments and councils to have a timber-first policy. We've worked to have timber's environmental and sustainable qualities recognised and we've developed strong relationships with builders. We need to be focused on selling the positives of timber: its carbon storage, its buildability, the fact that it performs so well at every stage of the process, for the builder, for the fabricator and for the homeowner."

"We don't need to be taking time out from that story to explain how something that shouldn't have been used has failed."

He's excited about the possibilities for multi-res builds. "We're jostling for position against steel in multi res," Quinn says. "It's an efficiency game. We need to come up with very efficient solutions, because if you can save \$50-80 on one unit, and it's there's 100 units, there's soon thousands saved."

"Timber's environmental story is great, but when it comes to multi res, they've got to build it to a price. We have an advantage in that builders like timber, but if a builder gets used to steel, then it's up to us to convince them to move back. And that's a different proposition."

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That package of trust, products and services that Quinn mentioned earlier is a key determinant of choice. "We've had builders say to us, 'you're not the cheapest, but I trust what you do.' All of the other wholesalers that design have builders who trust their systems, too," he says.

"It almost becomes a partnership. We're guaranteeing to that builder, via a merchant, that our package is going to do what we said it would. Not just our EWP, but 170 different pieces of connections, nails, I-joist, LVL, plywood, web stiffeners and more. We're warranting that whole solution – promising it will be a great fit for what they're doing. And thanks to those compliance processes we've discussed, we can do that with as much confidence for product we import as for the I-joist line we manufacture in Victoria."

That confidence is being supported by a review of the Australian standard for LVL and the development of one for I-joist.

"These will help to create a level playing field for importers," says Dolezal. "We're all for competition as long as that product is safe for use in its intended application. We're trying to weed out opportunistic suppliers who bring in something and then three months later close their business, leaving the family-owned F&T plant that used their product responsible for any failures."

"As a rule of thumb, if someone is bringing in a new product (as opposed to a reputable product that is established overseas and can demonstrate meeting Australian standards) in under six months, then it's very unlikely they've gone through all the steps needed."

Admittedly, it can still be slow to convince builders to use new products. "The classic case would be our meyBRACE product that we started three years ago. It's a great product, but we still expect 12 to 18 months before we start getting a consistent order pattern for it," Dolezal says.

"We saw the same pattern with our cassette products, which are a bit ahead of meyBRACE. That's the whole prefabricated world: it's slowly starting to gain momentum as builders realise they're spending too much time on site and the advantages of bringing as much work back into the factory as possible become clear. It's not just that you get a better product, it's more comfortable and it's safer for your workers."

There has been one surprising application for meyBRACE: "We're just starting to go into the portal shed space," says Dolezal. "We've just completed our first two portal frame sheds in South Australia. They're 10m spans by 20m long and it's a real alternative to steel sheds. Because we've found that in more rural areas where there's a bit more land,

people build a house and then they want to put up a shed. Doing them in timber has two massive advantages: firstly it's immediately cooler in summer and warmer in winter, but then if you want to box off a section of it and turn it into an office or accommodation for your teens, it's a lot easier in timber building."

All three emphasised the need for education in the market. "One yard told me that a few carpenters of his are actually asking for 'cheap Chinese joists' so that's what he gives them," Chehab says. "It's our responsibility as EWP importers to educate these guys. We need to empower merchants to tell those carpenters 'it still needs to be compliant. You still need to be able to get your certifier to sign the job off.'"

Allied has recently partnered with James Hardie as their wholesale distributor and added a direct-to-site wholesale floor system and cladding system service.

"We have multiple detailers as well as an engineer to assist when necessary, and our products are also available in Hyne Design," says Chehab, "which has had real advantages. We've recently moved some steel frame producers over to our EWP and that transition was very easy for them. Most are offering a hybrid model now. We sent our technical man out to site, downloaded Hyne Design for them and gave them a lesson in how to use the software. Done."

The switch to Metsa Finnjoist has been serendipitous. Chehab says, "The size to strength ratio is amazing and the price is good. We're finding our customers can compete with non-compliant 300x63 and offer a far superior product."

He's also seeing the change in the prefabricated space slowly gaining pace. "We've been working closely with a few Design for Manufacturing and Assembly companies in the school space recently," says Chehab. "We supplied LVL, fibre cement, plywood and particleboard into the Wee Waa High School project. Our LVL has also been used in many heritage building refurbishments throughout Australia. One recent project was the former Department of Education building on Bridge Street, Sydney, now known the luxury hotel Capella Sydney. The original hardwood joists were to be replaced."

"When we have our product specified on a heritage building, I get so much joy. I often ask myself, did my great-great-great-grandfather cut this hardwood that we're replacing? Will my great-great-great-grandchild replace our LVL one day? I certainly hope so." **T**

For more on reputable EWP, visit www.afp.com.au, <https://meyertimber.com.au> and www.tilling.com.au

"We've recently moved some steel frame producers over to our EWP and that transition was very easy for them."



Above: Craig Kay (left) and Yuri Huerta testing an I-joist at Tilling's Melbourne manufacturing facility.



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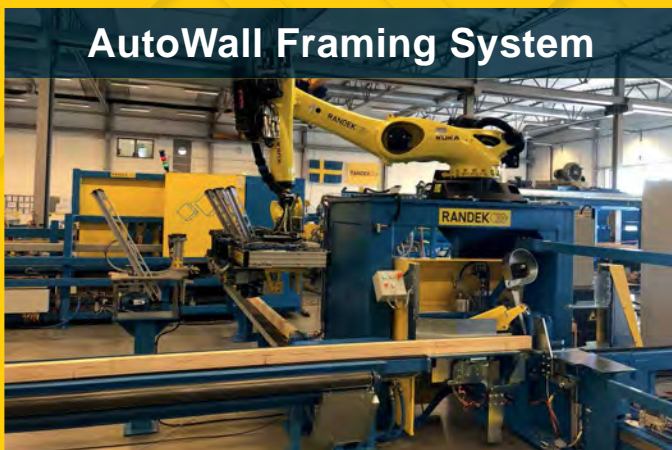


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Durable timber

Knowing the qualities of your timber, the abilities and limits of preservation techniques and the details of how it will be used are key to obtaining the required lifespan in your structure.

By George Dolezal, principal engineer, Meyer Timber Pty Ltd.

As a kid, we all wanted to be superheroes. They could do cool stuff, they always beat the baddies and, even though they often came close, rarely died. Imagine if we could transfer that to a piece of timber. Timber is a natural product and so has different abilities to last the test of time. But can we make it as durable as a superhero?



Above: WoodSolutions design guide #5.

When we talk about Durable Timber what do we really mean? The definition of durable is 'the ability to withstand wear, pressure, or damage'. For timber, there are really two main options to achieve this – either the timber needs to be naturally durable or it needs to be modified in some way to enhance its durability. But this also depends on the application and what level of wear and damage the timber is subjected to.

When considering the application, AS 1684 has an Appendix on durability that states that “timber used for house construction should have the level of durability appropriate for the relevant climate and expected service life and conditions”. It breaks this down into four major areas, which are:

1. Internal, fully protected;
2. External, above ground, protected;
3. External, above ground, exposed;
4. In-ground contact.

The first three above might be familiar to those with experience in glue laminated timber (GL, also known as GLT and glulam) as they correlate well to the Service Classes in the GL standard (AS/NZS 1328.1) which comes from the adhesive standard (AS/NZS 4364). After deciding on the location and conditions the timber will be exposed, you can either choose naturally durable timber or modify the timber somehow to suit.

All timber has a natural durability which has been rated and can be found in AS 1684 Appendix G. This gives a good indication, based on species, on how long it will last in different environments, as shown in Figure 1 (below). There are four durability classes where Class 1 has the highest durability and Class 4 has the lowest. There are also three applications of durability: internal fully protected, above ground exposed and in-ground contact/exposed to termites.

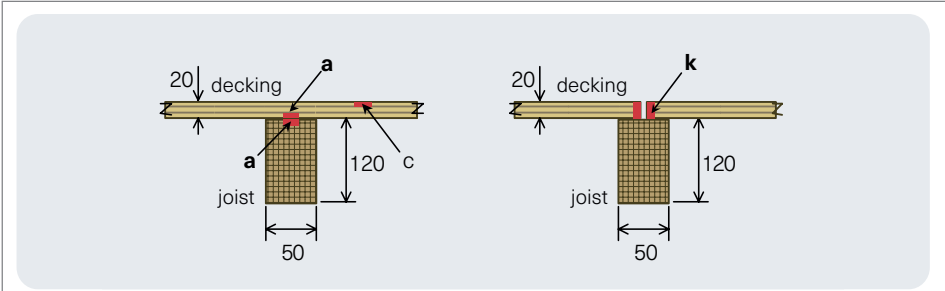
Modifying timber is most commonly done with preservative treatment. This is covered in AS/NZS 1604.1 and is broken into six Hazard Classes where H1 is indoor protected from borers, up to H6, which is prolonged immersion in sea water. The most common Hazard classes are H2S/F (indoor South of Tropic of Capricorn), H2 (indoor for whole of Australia), H3 (outdoor, above ground), H4 (outdoor in ground contact) and H5 (outdoor, in ground contact critical use).

When preservative treating to a Hazard Class in accordance with AS/NZS 1604.1 there are certain branding requirements, with the Timber Preservers Association of Australia (TPAA, www.tpaa.com.au) maintaining a register of treatment plants. They have also just started a voluntary certificate of compliance option in the register that will verify that treatment plants are getting regular testing done to comply

Natural durable class	Probable heartwood life expectancy (years)		
	Fully protected from the weather and termites	Above ground exposed to the weather but protected from termites	In-ground contact and exposed to termites
Class 1 High Durable	50+	40+	25+
Class 2 Durable	50+	15 to 40	15 to 25
Class 3 Moderately Durable	50+	7 to 15	5 to 15
Class 4 Non-durable	50+	0 to 7	0 to 5

Above: Figure 1: General guide to probable life expectancy (AS 5604)

Domestic decking



Above: Typical dimensions of decking and locations of interest for service lives.
Typical service life for onset of decay in decking. (See above for location in the assembly.)

Climate zone	Timber type	Above-ground durability class ¹	Treatment ²	Typical service life (years)		
				a	c	k
A	Treated sapwood	all	H3	60	80	60
	Untreated heartwood	1	—	30	40	30
		2	—	25	35	25
		3	—	15	20	15
		4	—	8	10	8
B	Untreated sapwood	all	—	3	4	3
	Treated sapwood	all	H3	50	60	50
		1	—	25	35	25
		2	—	20	25	20
		3	—	10	15	10
		4	—	7	9	7
	Untreated sapwood	all	—	2	3	2

Above: Figure 2: Domestic decking service life expectancy. From WoodSolutions Design Guide #5.

An H3 timber can be used for deck joists, but if the deck was in a rainforest where it was continually damp, a higher level of treatment would be required.

with the retention levels in the standard.

Note that there are other ways to modify timber to enhance durability. These are within the sphere of individual companies that have patented processes such as thermal modification, acetylation, or densification and sell branded product.

So, for a Service Class 3 application you would be best to use a Durability Class 2 timber or otherwise one that has been treated to Hazard Class H3. This can be confusing as the number scales for these might seem to be opposite. A good way of remembering how this works is to think that the lower the number the less risk posed. So a Service Class 1 application or Hazard Class 1 poses little risk, and using a Durability Class 1 timber will result in minimal risk.

Now that we have

that cleared up, how can we get a better understanding of what timber to use where and how long it will last? Remember that this all relies on an assessment of location and conditions and there could be situations where this may differ from the normal information provided. Untreated pine framing that is internal and protected is fine to use in Tasmania (where there is no termite risk), ‘blue pine’ (H2F) is suitable South of the Tropic of Capricorn and ‘red pine’ (H2) can be used anywhere in Australia. As it is internal-protected, this is based on the species of termite and decay does not come into the equation.

An H3 preservative-treated timber can be used as an example for deck joists, but if the deck was in a rainforest environment where it was continually damp with minimal direct sunlight, a higher level of preservative treatment would be required as this situation

is different from the normal definitions.

There are a couple of good references to assist with specifying the right timber to ensure adequate outcomes. One of these is the Timber Service Life Design Guide (#5) which has been prepared by WoodSolutions (www.woodsolutions.com.au/publications/timber-service-life-design-guide). This guide drills right down into locations of interest for a specific application to give expected service life for both treated and untreated timber. As an example, you can get different service life expectancies for domestic decking for the top of the board, the underside where it is in contact with a joist, and the ends where they butt together on a joist (shown in Figure 2, left). This level of detail allows the specifier to make a well-informed decision on what timber species or what level of preservative treatment to use.

In addition to life expectancy, the service life design guide contains information on design, detailing, finishing and maintenance. These in themselves are almost as important as the durability of the timber in creating successful outcomes. For instance, in outdoor exposed applications you should detail to allow moisture to drain away, and protect horizontal surfaces, joints (where possible) and end grain.

Another reference is the publication “Construction timbers in Queensland”. This has a digital version that can be found at <https://qtimber.daf.qld.gov.au/>. Similar to the WoodSolutions guide, this website allows you to specify the location, member type and exposure, and then select a timber. The website will let you know if that timber is suitable or what further treatment is required. Note that the QTimber website can be used for areas outside of Queensland, also, as the decay hazard zones are equivalent to the WoodSolutions guide.

So, in essence, you can get a long-lasting timber by either using its natural characteristics or modifying it to some degree based on where and how it will be used. If you combine this with good detailing and finishing, the timber will successfully last the test of time. This can be seen in numerous timber buildings which are still standing after being built over 1000 years ago. With a little bit of thought, your timber will behave just like the superhero we wanted to be. Except maybe Aquaman. **T**

DIAGRAM AND TABLE: COURTESY MEYER TIMBER AND WOODSOLUTIONS



For more information on this topic, contact George Dolezal via email at GeorgeD@meyertimber.com.au



Building durability and Design Life

Australia’s approach to defining and achieving durable structures could do with a better grounding in the fundamentals. **By Craig Kay, national product engineer, Tilling**

“How long is a piece of string?” is often a colloquial or humorous response to a question such as “How long will it take?” or “How big is it?” when the length or size is unknown, infinite, variable or relative. In the domestic building construction arena, this answer could often be used when someone asks the question “What Design Life of a structure does the performance-based NCC mandate?”

Unlike our friends across the ditch in the land of the long white cloud, the NCC refrains from setting firm numerical values on the required Design Life of the structure. If one does a search of the words ‘Design Life’ in the combined NCC 2022 Volume Two & Housing Provisions, the only references that appear are within Queensland-specific clauses dealing with termite management.

The basis of and/or assumptions about Design Life used in the NCC instead have been outlined in a ‘Durability in Buildings’ Guideline Document released by the ABCB in 2007 in response to comments and concerns expressed by government, industry and the community that relate to the built environment.

It is not my purpose in this article to debate whether the use of the Durability in Buildings Guideline document is a good way to approach this topic or otherwise, but I do want to explore how we can use its contents to better understand the background fundamentals that underpin the Design Life methodology in the NCC in the absence of defined numerical targets.

This guidance document introduces a number of terms and concepts, and unless we understand exactly what they mean, wrong conclusions may be drawn. Some of the fundamental definitions are included below.

1. DESIGN LIFE

This means the period for which a building, or a building element or subsystem is expected to fulfil its intended function.

Table 1 (above right) outlines the philosophy inherent in the NCC concerning the Design Life of buildings and components.

Design Life of buildings (dl) (years)		Design Life of component or sub-systems (years)		
		Category		
Category	No of years	Readily accessible and economic to replace or repair	Moderate ease of access but difficult or costly to repair or replace	Not accessible or not economical to replace or repair
Short	1 ≤ dl ≤ 15	5 or dl (if dl < 5)	dl	dl
Normal	50	5	15	50
Long	100 or more	10	25	100

Above: Table 1 – The NCC’s philosophy on the design life of buildings and components of those buildings is conditional on both the intent of the whole structure and the position of the component.

The Design Life of buildings should be taken as Normal for all building importance categories unless otherwise specified.

Although there is a general correlation between the category of building Design Life and the importance level of a building, the concepts should not be confused. An important building may have a short Design Life and conversely an unimportant building may have a long Design Life.

Examples of a building with a short Design Life are a temporary building on a mining lease or a pavilion at an expo. Examples of buildings with a long Design Life are monumental building structures or buildings of high importance such as town halls and other municipal centres.

Examples of sub-systems ‘not accessible or not economical to replace or repair’ are structural frames. Examples of sub-systems with ‘moderate ease of access but difficult or costly to replace or repair’ are roof cladding systems or gutter and downpipe systems.

I could be very wrong, but I don’t think that it is clearly understood by most users that while the target Design Life of a structure may be 50 years, there could be components or subsystems within that structure that may have had maintenance carried out several times or may have even been replaced multiple times during those 50 years.

This brings us to the next definition that is vitally important for us to understand the underpinnings of the NCC.

2. DURABILITY

This means the capability of a building or its parts to perform a function over a specified period of time. Durability is not simply an inherent property of a material or component. It is the outcome of a complex interactions among all the factors contained in this list:

- a. the service conditions;
- b. material characteristic;
- c. design and detailing;
- d. workmanship and
- e. maintenance.

I must confess that for many years until I specifically studied this issue, I saw durability solely as individual component issue, not as a holistic approach for the entire building,

The addition of maintenance and inspection as an integral part of achieving the Design Life of the building was also new to me, despite working for 15 years as a local government engineer. It was not something that I see written into design briefs, but according to the NCC documentation, the maintenance and inspection required for buildings or their components to achieve

their Design Life should be clearly specified.

The guidance document suggests that the identification of essential maintenance, as distinct from maintenance for appearance only, should be considered for critical elements affecting health and safety. Examples of durability problems that can be overcome by appropriate maintenance are regular removal of corrosion deposits by cleaning, renewal of elements of short Design Life, testing of components for proper functioning, etc.

It is interesting that the New Zealand Acceptable Solutions and Verification Methods for New Zealand Building Code clause B2 Durability, goes further and breaks down the need for maintenance to achieve the expected durability of a building element into two quite distinct categories:

- 1. Normal maintenance:** the document lists eight (8) normal maintenance tasks but is not limited to only those listed.

- 2. Scheduled maintenance:** this comprises the inspection, maintenance and reporting procedures for building elements required to have a compliance schedule.

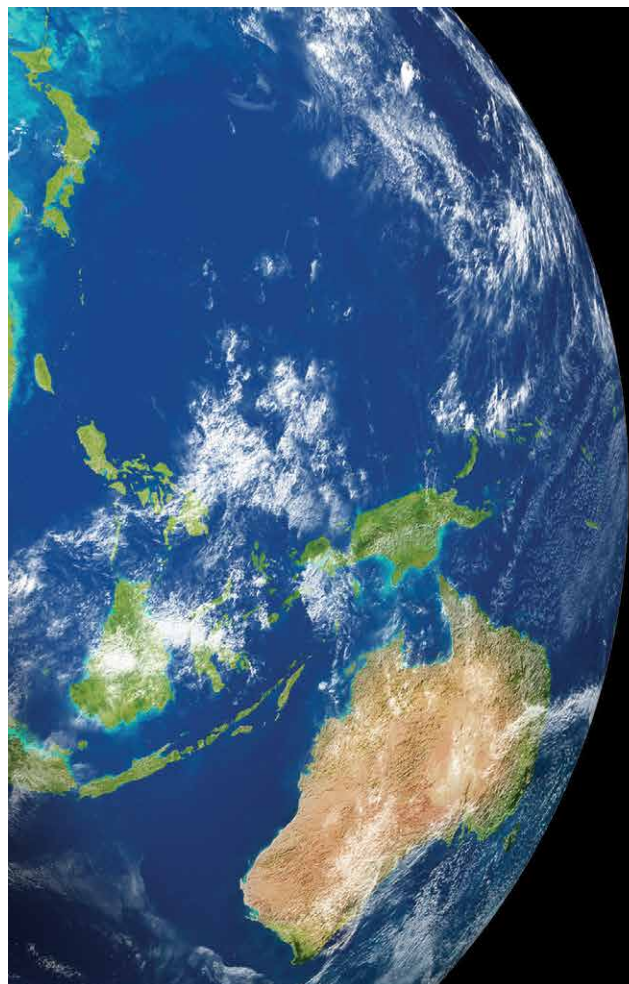
Durability design should consider the natural durability of the materials as well as maintenance and inspection, if used. In those cases where maintenance cannot be or is not expected to be carried out, design should

be managed carefully so that deterioration will not lead to failure.

In Australia, I don't think our building designers or regulators, at least in the domestic building space, clearly define what maintenance needs to be undertaken or what subsystems may need to be replaced in the assumed Design Life of the structure, but I'm happy to be corrected if I'm wrong. **T**



Craig Kay is the national product engineer for Tilling. For more information on this topic, contact Craig Kay and the Tilling engineers via email at techsupport@tilling.com.au



Some standards enforced in Australia originate from international certifying bodies

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Everyone has a role to play

Compliance is front of mind for all of us at the moment, for good reason. **By Kersten Gentle**

Everyone along the supply chain plays a critical role in ensuring that products or services are delivered to customers in a safe, ethical, and sustainable manner.

Each person or organisation involved in the supply chain can impact the quality, safety, and environmental impact of the final product. Therefore, it is important for everyone to take responsibility for their actions and work together to achieve common goals.

Unfortunately, there are often too many breaks in the supply chain, which can result in an entire industry being impacted.

One fall affects us all, and for this reason, we must ensure everyone within our supply chain is taking all the necessary steps to meet their responsibilities to guarantee we are only using fit-for-purpose timber.

We all know how hard it was over the past few years with the timber shortage. As timber supply tightened through our usual suppliers, we literally had new importers and suppliers coming out of the woodwork.

Fabricators who were desperate for timber would call or email me, providing certificates that claimed to demonstrate the structural properties of the timber, but who really

knows how to read these certificates? And were they authentic and accurate?

If the product doesn't meet the claims, then it is not fit for purpose. Just because a fabricator claims they thought the timber was fit for purpose or the supplier had shown them a fancy certificate to indicate it had all the relevant structural properties – that all means nothing. You, the fabricator, are liable for any future damages resulting from a fall or non-compliance.

Every fabricator uses engineered software, supplied by Mitek, Multinail or Pryda. If you are using the software, then you have received training in how to use the software.

One of the lessons you would have learnt was the importance of ensuring the right timber was selected in the engineered software. You cannot simply choose a substitute timber if what you are looking for is not included in the software, unless you go through a whole engineered design process.

You cannot simply choose a substitute timber if what you are looking for is not included in the engineered software from your nail plate company.

If you do substitute without a specific design, you are not only using the engineered software incorrectly but you are also ensuring your warranty is null and void and if there is a fall, you will be personally held responsible and could face criminal charges.

Our three nail plate companies test the timber to ensure it has the correct JD ratings, that it can handle the loads and is fit for purpose. Therefore, if it is not in the software, you cannot use it as part of a solution based on that company's software and nail plates. This is true even for good-quality products that are not in the software: they require a specific engineered design.

WHAT ARE NON-CONFORMING BUILDING PRODUCTS?

According to the ABCB Website, non-conforming building products (NCBPs) and materials are those that:

- claim to be something they are not;
- do not meet required standards for their intended use; or
- are marketed or supplied with the intent to deceive those who use them.

This is different to non-compliant products (NCPs) and materials which are products or materials used in situations where they do not comply with the requirements of the National Construction Code.

SO, HOW AM I RESPONSIBLE?

The ACBC is very clear on what different sectors of the supply chain are responsible for. You can see their guidance at www.abcb.gov.au/ncbp/my-responsibility. A snapshot includes:

Manufacturers Must ensure they know the requirements of compliance and

conformance of their products and materials and the evidence required to demonstrate compliance. This involves being aware of a range of related requirements such as testing, assurance, and certification. It also requires manufacturers to understand how customers should and should not use their products.

Importers, wholesalers, distributors and retailers Need to ensure that the products being supplied do not breach trade or consumer laws or industry-specific requirements for safety or performance. Some products or materials have specific requirements to demonstrate safety and suitability before they can be lawfully sold and may require independent testing and



Above: Nail plate companies base their calculations on known qualities of known products.

certification before being supplied.

Note that if you, as a timber importer, wholesaler, distributor or retailer, know that the timber has not been tested by the nail plate companies, you have a duty to ensure this information is passed on to fabricators buying the timber from you.

Developers, builders and other specialist tradespersons

Also need to ensure that conforming and complying products and materials are used, because much of the risk and responsibility falls to them as they are the ones that ultimately do the building work.

Developers and builders are responsible for ensuring that cost management does not compromise the performance of the selected building materials. They should also ensure that certificates demonstrating the compliance of purchased and installed materials comply with the certification documents/building approval. This documentation should be kept with the contract documentation and provided as a bundle to the building owner on completion of the building work.

As you can see, everyone in the supply chain has a role to play to ensure our industry is meeting standards and providing fit for purpose products.

If you have any questions, please contact me on 0418 226 242 to discuss. I cannot stress enough the importance of only using timber which has been tested by the nail plate companies and is included in the software.

Kersten Gentle
FTMA CEO



For more information contact
FTMA on 0418 226 242 or via
email at kersten@ftma.com.au



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Avoiding the cracks

When it comes to concrete slabs on reactive clay soils, truss manufacturers need to plan carefully.

By Paul Davis

I have dealt with more concretors in my life than I could possibly count. Particularly in commercial work, some have been very skilled and knowledgeable. However, many of them concrete how they have always concreted, and they have always concreted that way because their tradesmen concreted that way when they were an apprentice.

Let's face it, plonking down driveway slabs day in and day out is not a hugely skilled task. Do it every weekday for a year and you should have mastered the job. Even so, plenty of driveways go wrong. The next time you walk down a suburban street check out the driveways – roughly one in three are badly cracked.

For the fabricator, the truss and frame game is so much more challenging than driveway concreting. There are so many pitfalls to navigate. You can't, like some concretors, just keep doing things without thinking – you really should have a strong understanding of the behaviour of the product that you make and sell. And, unlike a driveway concretion, we can't afford to have products that crack up under service!

Truss construction with internal supports is one of those areas that demand good understanding if you choose to use them. The benefits are pretty straightforward: you can get shallower, lighter, more heavily loaded trusses to go further. However, the pitfalls are many and complex!

For a start, if the internal support is in a variable location, then you are going to have multiple different truss webbing

configurations. That, of course, is a drag when it comes to setups in the factory.

But worse than that, there is now the opportunity for the carpenters to get trusses in the wrong place and so the support webs don't hit the internal support. And that is downright unsafe.

A variation on this theme is of course when the trusses are installed back-to-front so that the internal support joint isn't over the wall... with the same unsafe end result.

A few times I have seen internal support walls built too low when the frames are cut on site – the carpenter just does it as a reflex action. The truss is now at double its design span or more – and nothing good can come of that!

There also are a number of other difficulties with internal supports that are not based around the practicalities of fabrication and erection but rather about the behaviour of the trusses themselves.

The way a support moves under a roof truss will affect the internal truss support. To better model this effect, some truss programs make an allowance for the 'springiness' of a typical top plate and wall frame. This might result in a settlement of the internal support by a few millimetres relative to the external supports. And this has a remarkably large effect on the internal truss forces – easily 20 to 30% for just a few millimetres' movement. And changing forces means of course changing timber and plate design. In reality, we can't accurately model the 'spring' stiffness of a real internal wall and so all of a sudden, the truss forces become something of an educated guess. For example, a support beam could 'spring' far more than just a couple of millimetres.

There is however a far more severe scenario to contend with: movement that can be expected from a typical concrete floor slab on a clay site. The Australian Standard for Residential Concrete Slabs envisages that

a *properly designed* house slab could experience a relative deflection of the external walls compared with the centre of the slab of up to 40mm over the life of the slab!

Many of you will have first-hand experience of a consequence of this slab movement phenomenon. You will have seen where internal non-load bearing timber walls push up towards the roof trusses and crack the cornice (and everyone assumes the trusses have failed). Problems of this sort typically occur at about the five year point in a house's life.

If you had internally supported timber roof trusses that experienced major changes of internal forces from just a few millimetres deflection, imagine what the changes in forces would be if 40mm relative deflection between supports was forced upon them by the ground. The short answer is that this would probably destroy the trusses! Given the very large uncertainty that this brings, I really suggest that you *don't* use internally supported trusses on a concrete raft slab on reactive clay soils.

However, let me be clear about this, I'm not saying don't use the internal walls for the support of trusses. It's quite valid to have one support on an internal wall and then only one other elsewhere. It's the situation of three or more supports that is problematic.

I was perhaps a bit unfair about concretors at the opening, as I have said I know many highly skilled and professional ones, but there is no doubt that the truss and frame game is far more intellectually challenging than concreting. That is because you are not just building a product – you really are doing design engineering work as well. It's a pity you don't get paid at the engineer's and concretion's salary combined. You deserve it! **T**



The way a support moves under a roof truss will affect the internal truss support.

Paul Davis is an independent structural engineer managing his own consulting firm Project X Solutions Pty Ltd. The views in this column are Paul's and do not reflect the opinions of *TimberTrader News*.
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VEKTA PACKFEEDER

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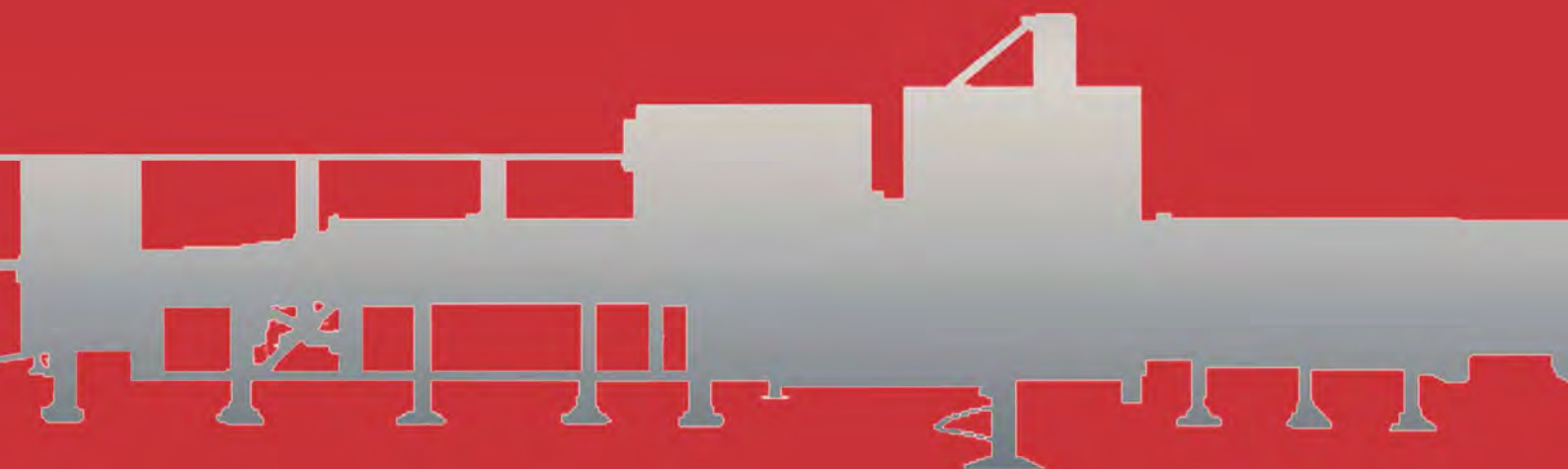
Packs of timber are loaded onto light-weight racks. Racks with longer timber are loaded on an upper row while those with shorter timber are loaded on a lower row. A vacuum head gantry then scans the location of each rack and the profiles of the timber in those racks. When called, a piece of timber of the correct length and grade is picked up with the vacuum head and delivered to the saw. **Vekta Packfeeder requires 75% less space than any other system.**



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