

TimberTrader

news

New floor system

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TIMBER CLADDING**

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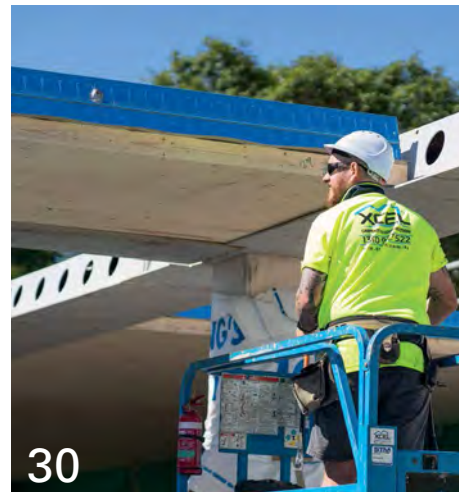
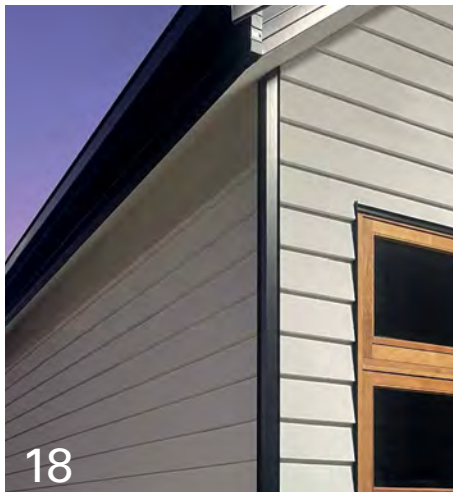


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COVER CREDIT: Photo Courtesy Viridi, inset courtesy Aurecon

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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Cover story

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Association news

MGA TMA

MGA TMA Employment Law team

YOUR WHS OBLIGATIONS AND DUTIES

Legislation and useful material

Employers have workplace health and safety (WHS) obligations arising from applicable Acts and Regulations. WHS legislation is similar in all states apart from Victoria and Western Australia. Compliance with WHS legislation is a necessary part of reducing legal risks to members' businesses and the MGA TMA Employment Law team is available to provide assistance to members.

The applicable WHS legislation includes:

- The WHS Act 2010
- The WHS Regulations 2010
- Victoria: Occupational Health and Safety Act 2004; Occupational Health and Safety Regulations 2007; and
- Western Australia: Occupational Safety and Health Act 1984; Occupational Safety and Health Regulations 1996.

There are minor differences in WHS obligations and duties between states. In addition to legislation, members can also refer to state-based Codes of Practice.

These can be useful to assist members in meeting their WHS duties, although they are practical guidance only and are non-binding. There are also guidance materials, WorkSafe factsheets and Australian Standards that can provide assistance to members.

The Act and Regulation identifies who is responsible for particular health and safety duties, including members' primary duty of care, the duty to consult and duties in respect of notifiable incidents. The legislation also confirms the rights of workers and unions. For example, unions may have rights in respect of entering workplaces to investigate suspected breaches of WHS obligations and to hold discussions.

Who has a duty?

Employers are considered a 'person conducting a business or undertaking' (PCBUs). PCBUs can include business entities. The individual business owners, people who make or participate in making

decisions that affect the whole or a substantial part of the business, and directors and secretaries are considered officers of the PCBU and specific obligations apply to officers.

Workers include anyone engaged or caused to be engaged by the PCBU, or whose activities in carrying out work are influenced or directed by the PCBU. Employees are considered workers. Workers can also include non-employees such as contractors, apprentices, volunteers and work experience workers.

Customers are considered visitors. Workers and visitors also have WHS duties under WHS legislation, and the PCBU owes obligations to workers and visitors.

PCBU duties

Member PCBUs have the primary duty of care to ensure, as far as reasonably practicable, the health and safety of workers and visitors/customers who may be affected or put at risk by the carrying out of work. PCBUs also have other notable duties, such as to consult, cooperate and coordinate with other PCBUs and workers and representatives and to notify the state-based regulator of notifiable incidents.

In discharging its primary duty of care, PCBUs must provide or engage in the following:

- Work environment without risks to health and safety;
- Safe plant and structures;
- Safe systems of work;
- Safe use, handling, storage and transport of plant;
- Adequate facilities for welfare of others;
- Necessary information, training, instruction/supervision; and
- Monitoring of workers' health and workplace conditions.

The PCBU's risk management duty is to ensure risks are eliminated or, if not reasonably practicable, minimised. To determine what is reasonable for a PCBU to eliminate or minimise risks, the following factors must be taken into account:

- Likelihood of the hazard or risk occurring;
- Degree of potential harm;

- What the person ought reasonably to know about the hazard or risk and ways of eliminating or minimising the risk; and
- Availability and suitability of ways to eliminate or minimise risk.

Cost may only be a relevant consideration to the 'reasonability' assessment where the cost is grossly disproportionate to the risk. In order to determine whether excessive costs render steps to eliminate or minimise risk unreasonable, the extent of the risk and methods to eliminate or minimise these must be assessed first.

Consultation

Consulting with workers and other parties is an important part of discharging a PCBU's health and safety obligations. When consulting with workers and other PCBUs, members should take care to advise workers of outcome of consultations in a timely manner, consult any representatives if applicable and keep records of all consultation. Members should consult with workers and other parties regularly and frequently.

Officers' duties

Officers have a duty to conduct or exercise **due diligence** to ensure the PCBU complies with its WHS obligations. In discharging this duty, officers should take care to:

- Gain understanding of hazards and risks associated with operations of business or undertaking;
- Ensure the PCBU has and uses appropriate resources and processes to eliminate and minimise risk;
- Acquire and keep up-to-date health and safety knowledge (i.e. through training and reporting);
- Understand the activities undertaken by the PCBU and associated risks (i.e. through inspection and consultation);
- Ensure the PCBU uses resources and processes to manage risk (i.e. through safe plant and training);
- Ensure the PCBU collects information to monitor these and solve any problems (i.e. through reporting systems and collecting industry information);
- Provide appropriate resources and

processes essential for the PCBU to achieve compliance (i.e. through consulting, reporting notifiable incidents, ensuring compliance with notices and providing requisite training); and

- Have objective and verifiable records of the provision and use of the above.

Risk management

In managing health and safety risks, the PCBU must:

- 1. Identify reasonably foreseeable hazards** that could give rise to health and safety risks;
- 2. Eliminate risks** so far as reasonably practicable; or if not reasonably practicable; and
- 3. Minimise risks** as far as reasonably practicable.

When it is not reasonably practicable to completely eliminate risks, PCBUs must take care to follow the hierarchy of control measures as set out in the Regulations. The hierarchy of control measures sets out three levels of control – highest, medium and lowest. The PCBU must be able to prove that it could not do anything at a higher level. A combination of control measures spanning the hierarchy may also be used to minimise risks, so far as is reasonably practicable, if a single control is not sufficient for the purpose.

First and foremost, the PCBU must seek to eliminate the risk, if reasonably practicable. If not, the PCBU must then



First and foremost, the PCBU must seek to eliminate the risk, if reasonably practicable. If not, the PCBU must then seek to minimise it.

seek to minimise the risk, so far as reasonably practicable by:

- Substituting (wholly or partly) the hazard with something that gives rise to lesser risk; if not
- Isolating the hazard from any person exposed to it; and if not,
- Implementing engineering controls to

reduce the risk of hazard impacting.

Examples of engineering controls are those that are physical in nature, such as mechanical devices and processes like trolleys, hoists and guards.

Should implementing the above steps prove insufficient to discharge the PCBU's »

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primary duty, the PCBU must then rely on human behaviour and supervision to further minimise the risk. These involve implementing administrative controls to reduce the exposure of the worker to the remaining risks associated with the hazards, such as safe work procedures, training, instruction and provision of information and supervision. If an unacceptable level of risk remains, the PCBU must then seek to minimise the remaining risk, so far as is reasonably practicable, by ensuring provision and use of suitable personal protective equipment (PPE).

Tying it together

In short, steps that member PCBUs must take in respect of health and safety risks include:

1. Identifying hazards;
2. Assessing risks;
3. Controlling risks;
4. Reviewing and maintaining control measures;
5. Keeping records to demonstrate compliance; and
6. Engaging in consultation required at all steps of the risk management process.

MGA TMA members are encouraged to contact our Employment Law team at 1800 888 479 with any queries in respect of WHS obligations and risk management.

TIMBER PRODUCT KNOWLEDGE

MGA TMA in association with Timber Training Creswick (RTOid #4168), are excited to offer the short course: FWPCOT3302

Access and Provide Timber and Wood Product Information.

Registrations are open for the two-day timber product knowledge training being held in Victoria on 8–9 June 2022.

The course is designed for timber and wood product salespeople who need to provide comprehensive advice to customers on the correct timber to use for their applications.

Spots are strictly limited, register today via www.mgatma.com.au/training/creswick-timber-training-access-and-provide-timber-and-wood-product-information

For membership enquiries, contact **Marie-Claire McKiernan, national membership manager, on (03) 9824 4111 or email marie-claire.mckiernan@mga.asn.au**

TABMA
David Little

QUEENSLAND TIMBER INDUSTRY AWARDS

It has been a long time in between catch-ups for the Queensland Timber Industry, and TABMA is proud to be hosting the 2022 Queensland Timber Industry Awards.

Just after this mag goes to print, we'll be gathering to celebrate the winners of this year's awards. Congratulations to this year's finalists and thank you to all our sponsors who have overwhelmingly come together to support the event.

Introducing this year's finalists:

Best Timber Merchant

- Doyles Timber and Hardware
- Gowan Lea Timbers

- 5 Star Timbers
- Tradeware Building Supplies
- Versace Timbers

Best Building Materials Store

- Bretts Timber and Hardware
- Sunshine Mitre 10
- BMS Mitre 10
- Big River Sabida

Best Timber Wholesaler

- Dindas Australia
- Thora Timbers
- Vida Wood
- ITI Queensland
- Pinewood Products

Best Timber Frame and Truss Operations

- TrussCorp
- Noosa Truss & Frame
- Premier Timber & Trusses
- King Truss
- Langs Building Supplies

Best Timber Manufacturing Operation

- Stairmaster
- Timbeck Architectural
- Easycraft
- Brisbane Timber Doors & Windows
- Duce Timber Windows and Doors

Best Sawmilling and Processing Operation

- Parkside Timber Dry Mill
- Walker Cypress Mills
- Robertson Bros Sawmills
- Allied Timber Products
- Hyne Timber

Most Innovative

- Multinail
- Pinetech Engineered Timber Solutions
- Laminex Australia
- Britton Timbers
- Tilling Timber

Best Timber Wholesale Rep

- Daniel Parkin – Pentarch
- Mick Dixon – Vida Wood
- Wayne Barton – Hyne Timber
- Melanie Conduit – Parkside Timber
- Carolyn Crabb – Dindas Australia

TTIA

Brian Beecroft

SUPER GUARANTEE ELIGIBILITY

The Australian Government announced it will remove the \$450 per month threshold to expand coverage of super guarantee to eligible employees regardless of their monthly pay.

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The change is now law by the Treasury Laws Amendment (Enhancing Superannuation Outcomes For Australians and Helping Australian Businesses Invest) Act 2021 (www.aph.gov.au/Parliamentary_Business/Bills_Legislation/Bills_Search_Results/Result?bld=r6800) with royal assent on 22 February 2022.

From 1 July 2022, employers will be required to make super guarantee contributions to their eligible employee's super fund regardless of how much the employee is paid.

Employees must still satisfy other super guarantee eligibility requirements.

For instance, the rules for workers under the age of 18 will remain generally the same. They will still only be eligible for SG contributions if they work more than 30 hours per week.

The ATO will work with digital service providers in updating their payroll and accounting software to be ready for this change.

Employers will need to check that their payroll and accounting systems have been updated for super payments made after 1 July 2022 to ensure they correctly calculate their employees' super guarantee entitlements.

The change will expand the coverage of SG to eligible employees regardless of their monthly pay.

The ATO have advised that they will update their advice and guidance, including online tools and calculators, on 1 July 2022 to account for this change.

It's an opportune time to remind timber industry employers that our Federal Timber

Industry Award does have some idiosyncrasies in relation to superannuation when an employee is absent due to workers' compensation.

In particular, **Clause 25.5 Absence from work:**

"Subject to the governing rules of the relevant superannuation fund, the employer must also make the superannuation contributions provided for in clause 25.2 and pay the amount authorised under clauses 25.3(a) or 25.3(b):

(a) Paid leave—while the employee is on any paid leave;

(b) **Work-related injury or illness**—for the period of absence from work (subject to a maximum of 52 weeks) of the employee due to work-related injury or work-related illness provided that:

(i) the employee is receiving workers' compensation payments or is receiving regular payments directly from the employer in accordance with the statutory requirements; and

(ii) the employee remains employed by the employer."

Members with any queries in relation to how superannuation interacts with our award and/or your employees' entitlements are invited to contact the **TTIA National Timber Hotline on (02) 9264 0011**.

EMPLOYMENT OBLIGATIONS

Readers will be aware that the *Fair Work Amendment (Supporting Australia's Jobs and Economic Recovery) Bill 2021* was passed by the Australian Parliament last year. These amendments to the Fair Work Act (**the**

Act) commenced on 27 March 2021.

In accordance with these amendments, the Fair Work Ombudsman (**FWO**) has prepared and published a **Casual Employment Information Statement ('CEIS')**. Employers must provide the gazetted CEIS to both existing and new casual employees. The FWO also updated the **Fair Work Information Statement ('FWIS')** to reflect these amendments to the Act.

For clarity, new casual employees must be provided with both the CEIS **and** FWIS.

Casual Employment Information Statement

Employers **must** provide a copy of the CEIS to:

- **new casual employees** before or as soon as possible after commencing casual employment with the employer;
- **existing casual employees (small business employers with fewer than 15 employees)** as soon as possible after 27 March 2021;
- **existing casual employees (other employers)** as soon as possible after 27 September 2021.

A copy of the CEIS can be given to a casual employee either in person, by email or post.

The CEIS contains information including:

- The statutory definition of a casual employee;
- Right to casual conversion for employees in small businesses and other businesses;
- Casual conversion requirements including rules about offers and requests for casual conversion; and
- Dispute resolution methods.

Fair Work Information Statement

Employers must provide a copy of the updated FWIS to all **new** employees before or as soon as possible after commencing their employment.

The updated version of the FWIS reflects the recent amendments to the Act by:

- referring to the employer obligation to provide the CEIS to new casual employees upon commencement of employment; and
- including a 'casual conversion' section in the National Employment Standards summary.

If you have any questions regarding these obligations or require a copy of the Information Statements, please contact TTIA on (02) 9264 0011 and one of our staff can assist you. T



PHOTO: ANDREY_POPOV/SHUTTERSTOCK

News in brief

Traditional Owners and forestry

VicForests' focus on sustainability has 60,000 years' worth of experience backing it.

Sustainability Manager for Responsible Wood (RW), Matt de Jongh recently spent a week in Victoria observing an independent, third-party audit of VicForests' operations. The audit is part of a process that ensures compliance for the certificate held by VicForests under the RW standard for sustainable forest management.

As part of the visit, de Jongh took the opportunity to gain a close-up first-hand look at both the auditing process and the sustainable forest management practices undertaken by VicForests.

"I was very impressed with not only the focus by VicForests on ensuring positive biodiversity outcomes through their active and adaptive forest management, but also

their work and engagement with the Traditional Owners," says de Jongh.

"It is well known that for about 60,000 years Traditional Owners have actively and adaptively managed Australia's forests, which have evolved with and adapted to this active management.

"It was wonderful to hear from the Owners on the meaningful partnerships they have formed with VicForests, ensuring their knowledge and practices are carried on for generations to come."

VicForests is one of 28 forests certified under AS 4708 – Sustainable Forest Management. This standard is used by Australian forest growers to make RW and PEFC claims on forest and tree-based

products. Underpinning certification is a commitment by forest growers to the management and rejuvenation of forests.

In addition to the input from Traditional Owners, VicForests ensures its forests are managed sustainably through a comprehensive forest management framework, which includes overarching policy and legislation and institutional and administrative arrangements.

"There is a lot of planning and monitoring that goes into forest management, including surveys for plants, animals and cultural heritage sites, as well as stakeholder engagement and monitoring and review mechanisms," de Jongh says.

"These aspects are all taken into account as part of the audit process."

In December 2021 Responsible Wood published the latest version of the AS/NZS 4708 Standard for Sustainable Forest Management – requirements, which can be downloaded by registering at www.responsiblewood.org.au/sustainable-forestry-management-standard-form/.

Published for the first time as a Trans-Tasman Standard, the new Standard provides common benchmarks for sustainably managed Australian and New Zealand forests.

The Australia-New Zealand Standard (AS / NZS 4708), along with the Australian Standard for Chain of Custody for Forest Products (AS / NZS 4707) are key components of the Responsible Wood Certification Scheme.

In coming months, de Jongh is planning to meet with all SFM certificate holders in Australia and New Zealand to describe and explain the new standard.



Above: Traditional Owner, Wadawurrung man and VicForests employee Sean Fagan, with Matt de Jongh (L).

**Australia's forests,
have adapted to
active management.**

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Team robot

Two major unis and a leading building firm have given a trial construction robot its first day on the job.

Some construction jobs are worse than others. Screwing 500,000 connections into a mass engineered timber (MET) building is one of the less fun parts, with the repetitive task putting strain on workers.

But what if you could get a robot to do it?

"About 12 months ago, I had a conversation with one of my colleagues, saying 'wouldn't it be cool if we could look at a different way of constructing, looking at the way we do things and how we innovate on building sites?'" says Tim Spies, managing director built environment Australia at Aurecon.

As luck would have it, Aurecon was contracted to deliver the civil and structural engineering for Building 360 at Murdoch University's South Street Campus in Perth. The glulam and CLT building will be the largest MET building in WA, and the uni was already using it to trial new approaches. Both parties were happy to use the build as a test case for new research projects, particularly ones that helped automate processes.

Fixing the screws that secure the mass timber elements is a time-consuming job that is easier to automate than many others on site. Aurecon and Murdoch gave their robot design partners at the University of Technology Sydney's Robotics Institute a set of parameters for the task and the UTS



Above: The UTS robot aced its trial, accurately locating and inserting multiple fixings.

team developed a trial construction robot, which had its first real-world day on the job on the Building 360 site in early May.

Professor Andrew Deeks, Vice Chancellor Murdoch University, gave the robot a glowing report card. He says, "As a university, we like to incorporate research in everything we do and so to have a research project that can look at the feasibility of using robotics in the construction of this sort of building is very much in line with our thinking."

The UTS team completed a prototype over a month before the Perth trial. Holding

the screw was one challenge, locating it a far more significant one. "Construction sites are varied, complex and changing," says Distinguished Professor of the UTS Robotics Institute and project leader, Dikai Liu. "And that can be a real challenge for a robot to navigate and conduct operations such as drilling a screw into the right position,"

But the robot performed well on the day, accurately locating and drilling somewhere around 100 fixings. It's a long way off finishing the build, but the proof of concept nods towards a future where people do the challenging work and robots follow up on the repetitive tasks, through the night if need be, leaving the human team to build faster and better, with fewer repetitive strain injuries or errors from tiredness. The robotics team are already working on the next, scaled-up phase of their research.

See the robot at work at www.youtube.com/watch?v=gAQiBRd64-8&t=4s



Above: Representatives from Aurecon and Murdoch University and the UTS Robotics Institute team.



Above: A rendering of Building 360 on completion.

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Super changes

The Superannuation Guarantee is rising and more employees will be covered.

On 1 July this year, super is changing for employers. Here's a quick rundown of what you need to know so you can get your payroll systems sorted with time to spare.

THE SUPER GUARANTEE IS RISING

The superannuation guarantee (SG) is going up. This may sound like a familiar story, as it rose last year and is set to rise again in 2023 as part of government legislation to increase SG to 12% by 2025.

The current rate is sitting at 10% and will grow to 10.5% on 1 July 2022.

Whether you pay SG fortnightly, monthly or quarterly, you'll need to check that all eligible employees are receiving the new, higher amount of 10.5% as part of their salary package. The first ATO quarterly deadline this change will apply to is 28 October. This covers the period 1 July to 30 September.

You'll also want to check what this means for any high-earning employees. That's because the maximum super contribution base will also rise on 1 July, ticking up a few thousand dollars to \$60,220 quarterly for the 2022/23 financial year. This means if you have any employees earning above this amount in a quarter, you don't have to pay

SG contributions on the part of their earnings that's over the limit.

SUPER TO COVER MORE EMPLOYEES

Also from 1 July, the \$450 monthly income threshold for superannuation will be removed, meaning around 300,000 low-income workers will qualify for SG payments for the first time.

Until now, the threshold has meant anyone earning less than \$450 per month from a single employer wasn't eligible for employer contributions, even if their overall earnings from multiple jobs was more than \$450!

A lack of super contributions over time can seriously impact retirement savings, so this change is a meaningful one for many employees.

If you have employees who fall into this category, you'll need to prepare to start paying them super. Other SG eligibility criteria still apply, such as employees aged 18 or younger needing to work more than 30 hours per week to qualify.

How can employers get prepared?

Make sure you check and update your payroll and accounting systems before 1 July 2022 with these new rules in mind.

SUPPORTING OUR INDUSTRY THROUGH CHANGE

Need help getting ready for 1 July? As the super fund for the timber industry, First Super understands the juggle between running your workplace and meeting your employer obligations. We're here to help in any way we can, whether that's chatting to your payroll team or visiting your worksite.

Get in touch with one of our local coordinators at firstsuper.com.au/coordinators or call us on **1300 943 171**. And if First Super isn't your default super fund, learn more about our services, including our focus on hands-on approach, at firstsuper.com.au/default-super-fund.

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INDUSTRY UPDATE / ASSOCIATION UPDATE

FEATURES / CLADDING SPECIAL

FABRICATOR NEWS / PROJECT

New section heads

TTN's handy design refresh.

You might notice a few changes to this month's *TTN*. After several years, it was time for a little design refresh and as part of that we've rationalised our sections.

At the top of each page, you'll see a new section head to tell you which part of the mag you're reading. The order has barely changed: all our industry issues are up the front, followed by Features and then Fabricator News, previously 'Autobuild'.

It's a simple change, but one that will help you find what you're looking for a little faster in these very busy times!

UPCOMING EVENTS

JUNE

WOOD SOLUTIONS WEBINARS

Back every second Tuesday, upcoming topics include AS1684 Series – Part 3: Tie-downs & Connections, on 7 June at 11am. **For more, visit www.woodsolutions.com.au/events/calendar**

FTMA NATIONAL CONFERENCE

Fabricators from around the country will gather at RACV Royal Pines Resort Gold Coast on 11–12 June to network, relax and listen to a series of experts on all things F&T. **Details and registration available at www.conference.ftmanews.com**

TIMBER OFFSITE CONSTRUCTION

Experts will talk about advances in building design and construction through the lens of existing projects, with in-person and live

streaming of local and international speakers and a mix of live and online delegates, including single-session tickets. Sessions include Building Design Influences, Construction Productivity and Manufacturing & Technology, plus project panel discussions. Running 21–22 June at the Crown Promenade Melbourne. **Details and registration available at www.timberoffsiteconstruction.com**
See page 30 for a preview of Oakhill College, one of the Building Project Panel sessions.

SEPTEMBER

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Set for the Brisbane Conference and Exhibition Centre, on 5–7 September. **Details at www.prefabaus.org.au/conference-2022**

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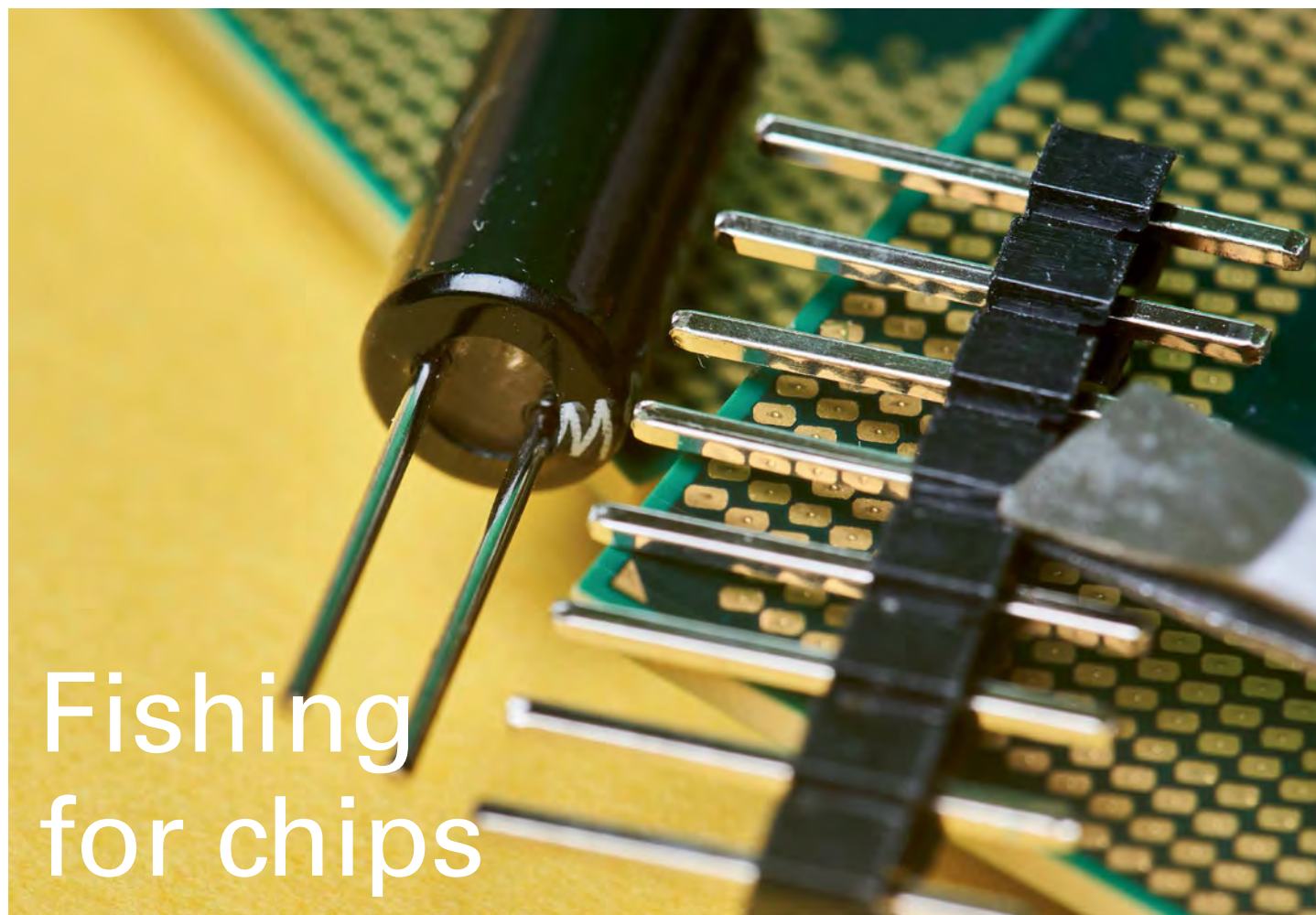
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Fishing for chips

A global semiconductor shortage is impacting on a huge range of manufacturers.

Semiconductors aren't the first thing you think about when you're thinking timber. The links between a shortage of the components that are vital for so many electronics and wood products are nowhere near as obvious as the ones between semiconductors and cars or computers. But then you remember how many of our machines, vehicles and systems are automated these days.

What started as a problem in the car and computing industries has spiralled out in recent months. The root causes boil down to strong demand and insufficient supply. During Covid lockdowns, there was a huge demand for home electronics and little for cars. Automotive dealers dropped their future orders and, where possible, electronics manufacturers swept them up.

Then people went back to work, and took

driving holidays and decided they deserved a new car. Auto production bounced back at the same time electronics sales were still high and a whole lot of the people who usually make semiconductors were off work with Covid. Expectations were already unrealistic – there's a four-month lead time to ramp up production in good years – over 2021/22, they've become impossible.

FEELING BATTERED

For some machinery suppliers, it's a led to a stressful time. *TTN* spoke to several who didn't want to be named because they were concerned their customers would worry about their orders.

"We're doing everything we can to make sure there are no delays," said one, "but it's a juggle! We haven't resorted to the black market yet, but if you see a chap on the news

wearing a hoodie and raiding a semiconductor plant, be ready to give me an alibi."

Another spoke of being so desperate for a single component to fulfil an order that he made a one-off order through a new supplier at 60 times his usual cost.

"The good news is that was 60 times a small amount of money, and we didn't need many of them. You'll happily wear that for a one-off, but overall, costs are up about 20% year on year. And that's not just for us, that's for everyone supplying every part we use, because they all have the same problem.

"When I put an order in with my American supplier, the cost I'm paying now isn't the cost I order it at. I'm paying their cost at the time of shipping plus their markup. Now, they're being very transparent about this, and it is necessary because we can't ask companies to send themselves out of business covering price rises, but it puts us in the position of having to pass those cost increases on at some point, too."

After Covid, the pressures of timber shortages, fuel increases, fires and floods, the last thing machinery customers want to hear is about a price rise, or a delivery delay.

"Unfortunately," says the definitely not a burglar, "that is sometimes the news we

During Covid lockdowns, automotive dealers dropped their future orders and, where possible, electronics manufacturers swept them up.

have to give. And to their infinite credit, most of our customers are being extraordinarily understanding about it.”

Truck and lifting firms have been hit hardest, as they are in many cases competing directly with larger automotive firms for the same types of chip, which has led to significant price increases. But all machinery and computing manufacturers are having to manage some level of disruption.

“It’s another area where the loss of Australian manufacturing really shows,” says the manufacturer with big cost increases. “Several states have flagged it as an area where they would like to invest in future industry, but even if the approvals were given overnight and ground broken on the project tomorrow, we’re three or more years away from beginning production.”

WHEN THE CHIPS ARE DOWN

Ed Serrano, managing director of Vekta Automation, was happy to speak on the record. “We’ve been lucky in that this hasn’t affected any of our deliveries yet, but that’s thanks to a mixture of planning, adapting what we’re doing and good fortune.”

The first step for Vekta has been to increase its stock holdings. “We’re in a happy place where we could tie up a bit more cash that way and we were still able to get supply for most of our circuit boards,” says Serrano.

“But our supply chains have definitely become more... let’s say dynamic. Every day is a new day and some things that have been available for years are suddenly no longer around.”

He describes the situation as playing by ear and addressing one problem at a time. “The stock holdings are the very first step after that it’s looking at the various options,” Serrano says. “So we source things through our US company. We source things through our normal channels. And we source things through new channels that we’ve developed specifically because of these Covid semiconductor shortages. It’s all just becoming a bit more dynamic.”

“It’s no longer as straightforward as you just go to the guy that you could buy supply from in previous years; you’ve got to look around a little bit more.”

While Serrano has been able to manage the challenges for his specific orders so far without major disruptions (different types of chips have different levels of shortages, with automotive supply one of the most constrained at the time of writing), he’s seen others impacted more severely.

“I know another supplier in the US who had some major problems with some key items that they need for their equipment,”

“The lead time for their circuit boards, which is what semiconductors are generally going into, suddenly exploded without any real warning.”

says Serrano. “The lead time for their circuit boards, which is what semiconductors are generally going into, suddenly just exploded without any real warning.”

Serrano has had good communication from his suppliers, who are effectively in the same boat with him as electronics rarely go directly from manufacturer to end user.

“Where we can, we’ve also broadened our channels,” he says, “but that’s not as simple as it sounds. You’re not looking for a generic product, you’re looking for a specific integrated circuit board that uses specific semiconductors, so the avenues for getting those are often quite limited.”

As a backup, Serrano has also looked at ways he can circumvent the problem. “In some cases, things have been redeveloped to not use particular semiconductors or to use more readily available parts,” he says.

“That’s something that we’ve worked with our suppliers on. And then as a last resort, we’ve looked at having to change some of our designs. We only do this if it’s something where there are pre-existing technical reasons to go in that direction, but we keep it on the cards.”

Serrano gives an example of a product that was slated for a future upgrade and change in some of its functionality.

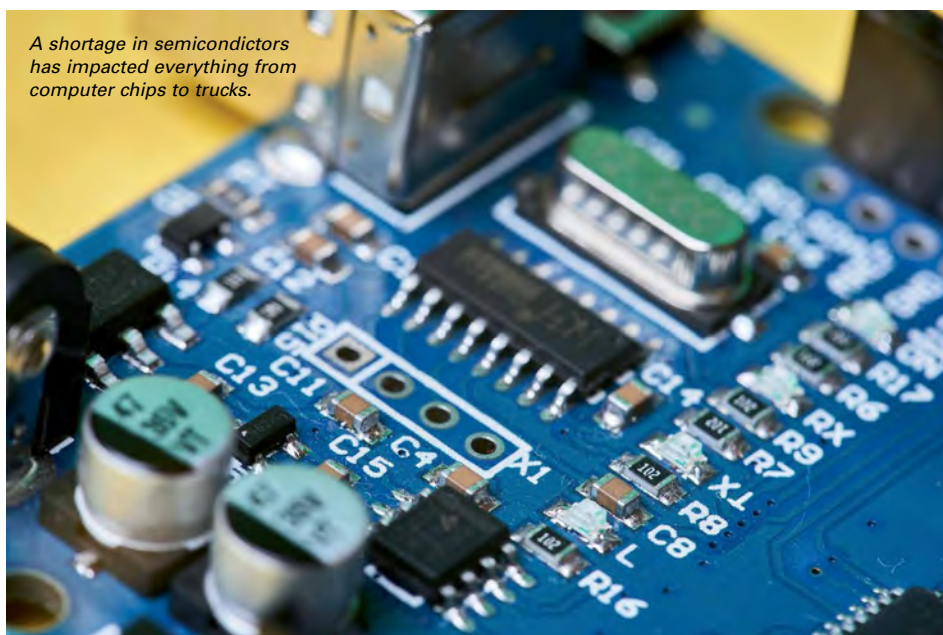
“We certainly hadn’t scheduled that to happen as early as it turned out,” Serrano

says. “But we brought that time frame forward because the semiconductor issues meant that one part in the old model was becoming harder to find while the parts we had designed the new model around were easier to find. So we said, ‘let’s do that work now and knock two birds off with one stone.’”

As an engineer who also runs the business, Serrano acknowledges that he can often be more nimble than businesses with more layers. It also means that more of his customers know him personally, and he is able to convey the problem to them clearly. “As I say, none of our deliveries have been affected yet, but we are seeing impacts, we’ve had a few scares, don’t get me wrong,” says Serrano. “But we try and talk to our customers and let them know what we’re doing about it. Most people know there is some sort of issue and they’re seeing it feeding through the supply chain, so it’s just a matter of explaining what it means in terms of their order.”

In the wider market, the expectation is for the situation to resolve itself mostly over the coming 12–24 months. For some businesses who can make do or mend, that just means a bit of patience. For others, it will mean having some very honest chats with your suppliers and perhaps looking for second-hand or leasing options to fill the gap and keep your productivity growing. **T**

A shortage in semiconductors has impacted everything from computer chips to trucks.





You need to know if this person fits the role in your business and your culture – not the referee's.

this candidate in the recruitment process to date – what, based on the evidence at your disposal, you have reasonably determined that you are satisfied with and what you still have questions about.

One simple way to do this is to get out a set of highlighters (physically or electronically) then look at the Position Description for the role and use the traffic light method to work through each function and attribute to give you a good graphic picture of where the candidate is at – green means 'yes', yellow is 'maybe' and red is 'no'. Using this assessment, consider why you think that and how you can best ask potential referees the questions that you need to get answers to.

RULE #2: PURPOSEFULLY DESIGN THE CONVERSATION

Remember that you need to know if this person is a fit with the role in your business and your culture – not the referee's.

Also remember that the referee can only effectively answer your questions if you firstly engage with them in a positive way and secondly give them the information on your needs so that they can respond in the right context.

So, in planning your conversation, you need to:

- Verify that the person is happy to act as a referee for the candidate and that the time is OK with a clear indication of how long it is likely to take (book a time that is convenient for the referee);
- Provide a concise explanation of the nature of your business, the desired culture and the contribution that this role is expected to make so as to give the referee an accurate context in which to respond to your questions;
- Pose a series of questions that are based on your needs asking the referee to provide you with evidence of the candidate's fit with those qualities based on their experience but very much in the context of your business;
- Express gratitude for the referee's participation (that is just courteous but, if

Making the call

Is reference checking worthwhile? Yes, if you do it right.

By Peter Maguire

Whether or not checking references is worth your time is a question that is often asked and, like lots of things in business, the answer is, "that depends on how you do it."

Properly structured and executed, reference checks can be invaluable. They provide a real opportunity to explore the candidate's fit with your business and the role in question through the lens of others' 'real life' experiences with and knowledge of them.

However, too often, there is a standardised HR procedure with generic questions ostensibly designed to ensure equal opportunity in the selection process, but which delivers little real intelligence

about the candidate's fit with your business and the role in question.

Here are our rules for conducting effective reference checks.

RULE #1: DO YOUR PREPARATION

Understand the role that you are recruiting to, the skills and knowledge that are necessary to perform the role effectively and the character attributes that exemplify your culture.

As you should do throughout the recruitment and selection process, think about the best ways that you can ascertain whether someone has those qualities.

Consider what you have learned about

you want an extra reason, giving thanks builds goodwill and enhances your reputation and that might just pay off sometime).

RULE #3: MAKE IT A CONVERSATION

People are often nervous about providing referee's comments especially if there is anything that might not be complimentary.

It is important that you put the person at ease by making the process as informal as possible – make it a conversation rather than an interrogation. Start by thanking them for agreeing to act as a referee and confirm the process and time commitment for them. Give them a brief overview of your business and the role for which the candidate has applied.

Ask a few questions about the referee's background eg "before we start talking about Mr XYZ, tell me a bit about yourself and your background." This helps to give you context about the referee and helps the referee to relax into the conversation.

Then establish the connection and level of the referee's experience with and knowledge of the candidate. Explore the nature of the role(s) that the candidate had, what their key responsibilities were and how

effective they were in meeting those.

Also explore the culture of the organisation – ask what the core values were and how well the candidate fitted with those, asking for examples of situations and ways in which they practised the values in real terms.

Now it is time to drill down into the questions that you identified in the planning process as needing answers, making sure that you contextualise the questions to your needs. For example, "At ABC Inc, we have a wide range of customers and some can be very demanding and difficult to deal with. We want to ensure we look after our people's wellbeing and this role is responsible for doing that with our customer service team. How do you think Mr XYZ would manage that for the team he would lead in this role and why, based on your experience with him,

do you think that is the case?"

Don't be afraid to dig a bit deeper or to adapt your questions based on the feedback that you are receiving in the conversation. You can be a bit flexible without compromising procedural fairness.

When you have finished your questions, ask the referee if there is anything that they would like to add. Finally, close off the conversation, thanking the referee for their time and information about the candidate.

RULE #4: REFLECT AND REVISE

Now revisit those questions that you came up with in the planning phase and the Position Description for the role. Adjust your ratings where appropriate based on the feedback that you received from referees.

Ready to make the call now? **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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AUSTRALIA'S MOST RELEVANT AND WELL-LOVED TIMBER INDUSTRY MAGAZINE



Warm and welcoming

Timber cladding ticks more boxes in terms of technical performance and aesthetics than any other. We talk to some of the biggest suppliers about what's hot now.

Bear with me, I'm about to make a skin care analogy. If you've ever watched ads for moisturisers, they talk a lot about your skin being your body's first line of defence when it comes to staying healthy. And if that's not the focus, then it will be a thinly veiled suggestion that looking as young as possible comes with benefits. Unlike the promises made about what's in the jar, these statements are both true, and they also apply directly to the skin of our homes.

Cladding, like a good complexion, is always pulling double duty. On the one hand

it plays an important role in protecting the fabric of a building, insulating it from heat, cold and sound and prolonging the life of the structure behind it, whether external or internal. On the other hand, it's a vital part of a building's attractiveness.

One of the greatest strengths of timber cladding is how well it delivers on all fronts, and the extraordinary diversity of looks it can deliver. We spoke with several leading suppliers about what they're bringing to the marketplace, what consumers want, and how they're growing their ranges.

SUSTAINABLE OPTIONS

"We have a lot of merchants and retailers demanding certification," says Carmel Smyth, product and innovation manager at Porta. "It's becoming more and more critical, and that's being driven by both clients and specifiers."

Depending on the timber, Porta's range of individual decorative lining boards is either FSC certified or Responsible Wood/PEFC certified. "We source from a number of countries with trustworthy supply chains," says Smyth. "For example, our Endure range which is an external product, uses a timber called Cumaru which is sourced from Peru. The Contours range, which is our internal lining range is produced primarily from Tasmanian Oak. We also make our timber



Above: Thermory Vivid Opaque cladding. **Top:** Thermo Radiata Pine cladding used in Jack's Point, NZ.

linings in a number of different Australian species, which we source according to our customers' needs."

For external timbers in particular, easy access to product information is vital for customers. Obviously BAL ratings are essential for everyone in bushfire areas "and having achieved a higher BAL rating does mean you're maximising your customer base on each product," says Smyth, but the ability to withstand coastal weathering, or extreme temperature or wet – especially after this year – is also a vital part of matching the perfect product to a project.

"We put a lot of effort into testing and obtaining the relevant certifications from various bodies for that reason," Smyth says. "So when we're talking to our customers, we can guide them towards the best choice."

The Cumaru used for Porta's Endure range is a Class 1 durability timber with a 40+ years above-ground lifespan that can be oiled or coated or left to silver naturally. Available in a large range of standard profiles, it can also be milled to order, as can the interior Contours range. "We pride ourselves on being able to do custom work,"

says Smyth. "Not just in our lining board ranges, but in our mouldings and other products as well. Sometimes we're matching something from a photo, sometimes we develop it from a drawing. The request might come from an architect or designer, or someone coming into a store or sending their builder. We work with them to bring to life those custom orders."

Which means there's an enormous range of possibilities for how Porta's timber lining boards are used, particularly in interiors. Bold and graphic designs abound in Porta's lookbooks, filled with photos of recent residential and commercial projects, along with richly organic finishes that delight in timber's natural colours and grain.

"I believe people are looking for texture and warmth in their home," Smyth says. "For residential users, the Tas Oak internally and Cumaru externally really provide that level of interest from a visual and tactile perspective. Then, on top of that, are features that benefit your home: the natural acoustics and soundproofing that comes with using timber."

"Our commercial customers, who are a high growth group for us, are looking for »



Above: Porta Endure Riverine as garden edging.

"I believe people are looking for texture and warmth in their home."



Porta Contours Cirque in Tasmanian Oak.



Above: Porta dowel and half-round dowel in Tasmanian Oak in a design by Urbourne Architects.

something similar. All those physical benefits, but also it warms up the space and makes an impact. Especially with the natural timbers used in large, open areas – you get that wow factor when you walk into a space.”

NATURAL LOOKS

The wow of natural timber is a major selling point but there are also definite trends. “Right now, blonde is big,” says Julia Hall, CEO McCormacks Australia. “We’ve recently introduced a new American Oak product that has a beautiful blonde look, which will grey off over time if you don’t want to preserve it with coatings. For people who like Australian Silvertop Ash, which is quite popular, but a

little bit hard to get a hold of, the American Oak is a really good alternative.”

Imported from certified sustainable sources in the US, the cladding is profiled at the Heyfield Australian Sustainable Hardwoods (ASH) mill and supplied with an H3 treatment, so a coating isn’t necessary to ensure its 15-year guarantee against mould or decay.

“Though, of course,” Hall says, “if you want to keep the colour, you can use any kind of exterior oil. We’d generally suggest a decking oil or exterior clear, or you could varnish it, although that’s a big job when you come to redo it.”

Despite having only been on the market for a bit over a month, the American oak has already attracted significant customer interest. “And I think a lot of that is to do with how much it embraces its natural qualities,” says Hall. “It’s back sawn, which really brings out a beautiful grain that you don’t often see in cladding on the outside of a home.

“It’s not just that blonde timbers are in fashion and that grained look is very popular – I think it’s how humans react around timber. We have a real affinity with it, because it’s a natural product, it makes us feel really good. That’s why there’s so many more people choosing to have a timber feature wall or timber cladding on the



Above: Contours Riverine pre-primed from Porta complements the curve of this domestic hallway.

PHOTOS: (TOP) JACK LEVEL PHOTOGRAPHY; (BELOW) THE PALM CO

outside of their home or any of those timber bits, we love it. We're drawn to it. It's part of our spirit."

Hall points to data showing increased spending by customers in timber-rich hospitality spaces as proof that this sense of connection is tangible – "and a practical reason to look at timber when you are fitting out a business or a home!"

McCormack's range of cladding timbers also includes Spotted Gum and Ironbark, as well as Silvertop Ash and IronAsh cladding. "That's another ASH product with the H3 treatment," says Hall, "and like the American Oak, you can choose to keep the colour with an oil or just let it grey off."

"The good thing with both these cladding products is that they're end matched. That means we supply them in packs of random lengths, so that you don't have an unwanted line on your wall where a set of boards end. And when it comes to fastening them together, they actually click in on the ends of each board, which makes it much easier for installation and much neater."

Several of the McCormacks cladding products including IronAsh, Silvertop Ash, Spotted Gum and Red Ironbark have BAL 19 or 29 ratings. "Though in many cases, you need to have a non-combustible product sitting behind the cladding," Hall says.

"We stock Magnum Board, which you can use in this application, or for higher risk areas, where you need a BAL 40 or BAL FZ product, you can use the Magnum Board weatherboard cladding. They're not timber, but they are another natural product that holds carbon and they can stand up to floods as well as fires."

COATED CLADDING

While natural is beautiful, variety is the soul of both commercial and residential architecture and over the past few years Thermory has responded to trends for colour and texture in cladding with a series of specialised 'coated' claddings.

Ignite has been available in Australia for a few years. With a colour and texture that realistically echo Japanese charred timbers (*yaki sugi ban*) without any risk of charcoal transfer or bleed, it's a dramatic look that can be used internally or externally. The spruce timber is thermally modified – as are all Thermory products – to enhance its stability, durability and resistance to moisture, rot and pests. It's then embossed, brushed and tinted to deliver all the beauty of charred timber, with none of the irregularity or mess.

In terms of celebrity endorsements, Ignite comes with one of the best: Snoop Dogg recently chose to use it on The Property

In terms of celebrity endorsements, Ignite comes with one of the best: Snoop Dogg recently chose to use it on *Celebrity IOU*.



Above: American oak from McCormacks Australia.

Brothers' *Celebrity IOU*. The rapper hand-selected it as the external cladding in the transformation of a garage into a luxury retreat for a friend who works as the youth commissioner for a football team that supports kids in the area Dogg grew up.

"It was so exciting for us seeing Dogg standing there in front of our cladding," says Oksana Skorbatjuk, Thermory brand manager, grinning. "Our US distributor facilitated the whole thing, so they had a great close encounter!"

Closer to home, TV renovator Shaynna Blaze is also featuring Ignite in an upcoming renovation show on Channel 9, which was finalising at the time we spoke.

"It's been extremely popular around the world," says Maria Pirogova, area sales manager, "as has our Drift, which resembles recycled timber but with more predictable lengths, widths and colour. Now we've launched a new range called Vivid, which is available in three types of finish." »



Above: Magnum Board weatherboard from McCormacks Australia is ideal for fire or flood-prone regions.



Vivid Silvered comes in light and dark grey options, delivering an aged silver finish from the day the cladding is installed. "It's for people who like that aged look," says Skorbatjuk. "The coating will wear off equally and subtly over years, revealing the timber beneath it, which will by then have aged naturally, so you will keep the look without ever having to repaint it."

Vivid Opaque has a coloured acrylic coating available in a range of bold and subtle tones. "The advantage of having this opaque coating over Thermory's wood is the durability," says Pirogova. "Because the wood under the coating is stable and doesn't rot, the coating doesn't lift from it. So the coating lasts longer, an average of 10 years before it needs repainting."

The water-based paint is environmentally friendly but has gone through rigorous testing, especially in Estonia, where the company is based. "It's performed beautifully in its trials in the Baltics," says Skorbatjuk, "We haven't had it in Australia for 10 years yet, but we know the wood beneath performs very strongly in your conditions and expect the paint will, too."

Vivid Translucent has a semi-transparent coating that lasts an average of seven years and allows the natural grain to show through. Like the Silvered, it can be left to wear off over time or recoated, depending on your preference.

"The beauty of Thermory wood is that it's your choice if you wish to have it coloured or oiled," says Pirogova. "You don't have to finish it. All Thermory products are naturally rot resistant, so you don't have to coat them for durability, it's just for aesthetics."

Pirogova points out that most of the Thermory product sold in Australia so far has been Thermo Radiata Pine. "We're very excited about expanding what we offer in the local market," she says. "Like those of us living in the Nordic countries that Thermory products come from, Australians love their timbers, so we're happy to deliver more



Above: Thermo-pine cladding is available in smoother Radiata or knottier Nordic pine options.

PEACE OF MIND

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“Every piece is unique. And with that uniqueness, you can get that subtle variation in the finish, the colour and the features of every single piece.”

choices when it comes to colour and finish and even texture, with the knottier Nordic Pine available to you now, too.”

ON THE WALL

As if the range of cladding options wasn't extensive enough, then comes the question of how to put it on the wall. Vertical, horizontal, some of each, flat, gapped, ridged, even a mix of flat-sawn and rounded dowels – there are as many textural options

as you can imagine, and that's before you introduce colour and edging contrasts. Architects and interior designers have embraced the possibilities of timber cladding, with narrow boards forming patterns over extra-wide flat panels, shingles alongside boards, even specially milled wavy or patterned profiles.

Porta and Thermory both offer a series of inspiration galleries and publications, sharing many of their commercial and residential installations as a way to help inspire users, while McCormacks and other major suppliers like Kennedy's Timbers use a mix of their websites, social media and magazines to share their recent projects (see 'Green and glorious' in last month's *TTN*). Thermory has even produced a white paper titled *Timber for Tomorrow: the benefits of Thermally modified wood in Australian construction* to guide specifiers and architects in making their selections.

“It's the versatility of the product that makes it so appealing,” says Porta's Smyth. “Not just the many ways you can mix and match widths and profiles, but adding warmth, colour and tone to a specific space, and giving that visual texture and excitement to the eye. Every piece is unique. And with that uniqueness, you can get that subtle variation in the finish, the colour and the features of every single piece.”

Conversely, timber can also provide unity throughout a space. “If you're working externally, you need something that's versatile,” Smyth says. We offer Cumaru as more than just a lining board, you can use it for decking, for landscaping in the garden and it can all tone in together.”

Seamless finishes and hidden fixings are available directly from some suppliers, while others will make recommendations to your builder to achieve the desired result. Standard lengths average around 2.7–3.6m per board, though some suppliers will source longer boards as part of special orders.

“Our Contours timber lining range is all tongue and groove,” says Smyth, “so it fits very easily together. Depending on the type of wall installation, the edging finish can vary. You can simply trim the tongue section for a neat finish, or use a piece of DAR quad. But generally speaking it's easy to install and apply, and the design itself takes into account any slight movement with the timber.”

One point Madhuri Ranjan, commercial marketing manager for Intergrain Trade & Industrial makes is that, if you're not using a highly durable timber like one of the above, or if you want to keep the original colour, coatings are necessary for external use.

“It's the coating that protects the timber and makes sure you have the maximum product life possible,” she says.

“For some of those highly durable timbers, it's an aesthetic choice. But for less durable cladding options, it's a vital part of your home maintenance.”

Most of the reputable brands in the market will do the job well, but Ranjan emphasises the benefits of pre-oiling services where they're available.

“We work with a lot of clients who are now pre-oiling for their customers,” Ranjan says. “It guarantees that the backs of the boards have a coating, which will last for a long time, as they're protected from the level of exposure on the outer side.”

Intergrain has developed Uni Oil for exactly this purpose. “It's an open system, so you can follow it with a water-based or oil-based finishing oil, depending on what the client wants, and it can be tinted as well,” says Ranjan.

“Best of all, it dries extremely quickly. I was just with a customer who showed me the cladding he'd coated in an oil-based product and it was still not dry, even after 24 hours. He told me that in winter, it can take a week or more. Uni Oil dries overnight. Particularly in the winter months, this is a huge benefit. As he said, ‘I get a faster turnaround and I can get the floor space back.’”

TTN will be running a special feature on pre-oiling options in an upcoming edition. ➤



Above: Thermory Vivid Translucent 7 Gray cladding. **Below:** Vivid Opaque in a natural green.





The perfect timber cladding board is durable and stable, with a flawless finish



Ignite by Thermory C24 20x140



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Above: Porta Contours celebrates the texture of Tasmanian Oak in Strata (wall), Riverine (back wall) and Plateau 39 alternating with Riverine (bottom counter).

“Your cladding is going to be there for a long time and you want it to look its best, whether you leave it to grey off or use a pigment.”



Above: Cumaru for Porta is used for the decking, screening and seating, providing seamless flow.

Smyth says Porta offers a pre-oiling service for its Endure external products prior to shipping to site for additional coating. “It’s going to be there for a long time and you want it to look and be its best, whether you leave it with a clear coating to grey off or use a pigmented coating. By coating before you install, you get the best result. And while Cumaru is a very low-leaching timber, for some of the tropical timbers that are used as cladding, it can minimise their tannin run-off.”

Looks aren’t everything. In high rain areas (which is apparently almost everywhere this year) and regions that can expect regular snow, dimensional stability is vital.

“This is one of the major strengths of Thermory,” says Skorbatjuk. “Our product was designed to cope with climates that at times have very high moisture and then at others go very low. In Estonia, we have the heating season: during our winters we have very dry

air in our homes, while outside, it may be dry or it may be snowing. In the summer, it’s more moist. Timbers that aren’t thermally treated start to gap between panels, because they don’t deal as well with these changing extremes. The very same product that does the job at my home in Tallinn in Estonia works every bit as well at your home in Sydney, or in Brisbane or Melbourne.”

Elsewhere in Australia, BAL ratings may be the driving factor behind a choice of cladding. “But there are still options available for people who want to build in the bush,” says Hall. “The spotted gum we source from Pentarch goes up to a maximum BAL 29, for example, and you can use other products like our IronAsh as part of a complete system with a non combustible product sitting behind it. So you may need to go through a few more steps, but if you want that timber look, you can usually still get it.”

FLEXIBLE SUPPLY

One of the benefits cladding has over structural timbers is that, as long as it meets the same design requirements (looks durability, BAL rating, strength...), it is much easier to substitute one option for another. Once you’re sure there is a performance match and the client is happy with the look, it’s a simple swap.



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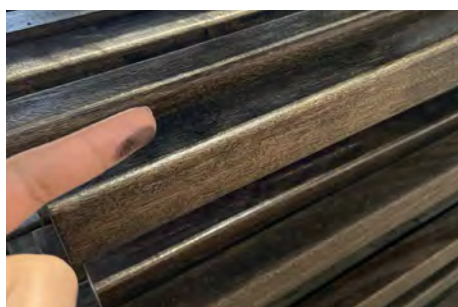
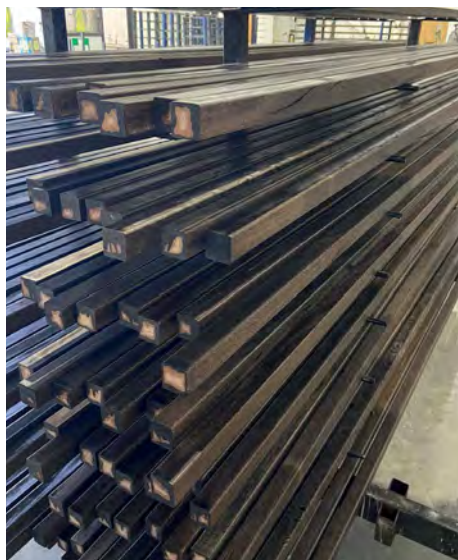
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Riverine, Strata & Valley | **SIZE** 91x21mm | **COVER** 78mm | **LENGTH** 2.4m, 3.0m
Shiplap | **SIZE** 140x19mm | **COVER** 122mm | **LENGTH** Random Lengths

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Above: Pre-oiling guarantees an even application and can introduce a colour tint as well.

"Which provides us with a lot of flexibility," says Smyth, "because supply issues continue to challenge the industry. The species we can source fluctuate regularly."

Porta has dealt with this by diversifying its ranges. "We're putting in place strategies to try and spread our linings and even some of our moulding products, into areas that are not taking advantage of a single species," Smyth says. "We're trying to mix up the species a bit to guarantee that continuity of supply, especially with the increasing demand that's been happening over the last couple of years."

It's definitely not the worst problem to have in business, particularly when it's arisen out of the success of industry programs. Smyth says: "We've seen a strong response to education around the importance of wood as a sustainable building material. The facts that it can be regrown, act as a carbon store and is a material that makes people feel in touch with nature make it a perfect choice."

Accordingly, there has been growth in timber options being specified for custom-built homes and higher-specced homes from residential building companies. "Because it is a premium product," says Smyth, "we have a

strong group of commercial customers, who are seeking timber lining more and more. They're using it in a lot of their builds, whether that's apartments, hospitality venues, offices; you name it, it's being used. So it's very popular and the demand is increasing."

Shipping from Europe hit the same Covid bump for Thermory as for everyone, but is back on track now.


"Our distributor in Australia stocks Ignite and Drift at the moment, and we hope to have Vivid in Australia shortly," says Pirogova. "We have an advantage with timber supply: the forests we source from across Europe and the US and our forestry operations are big enough to be resilient when it comes to demand surges, so we can concentrate on expanding what we're supplying into the Australian market for people who are looking for the benefits of our product."

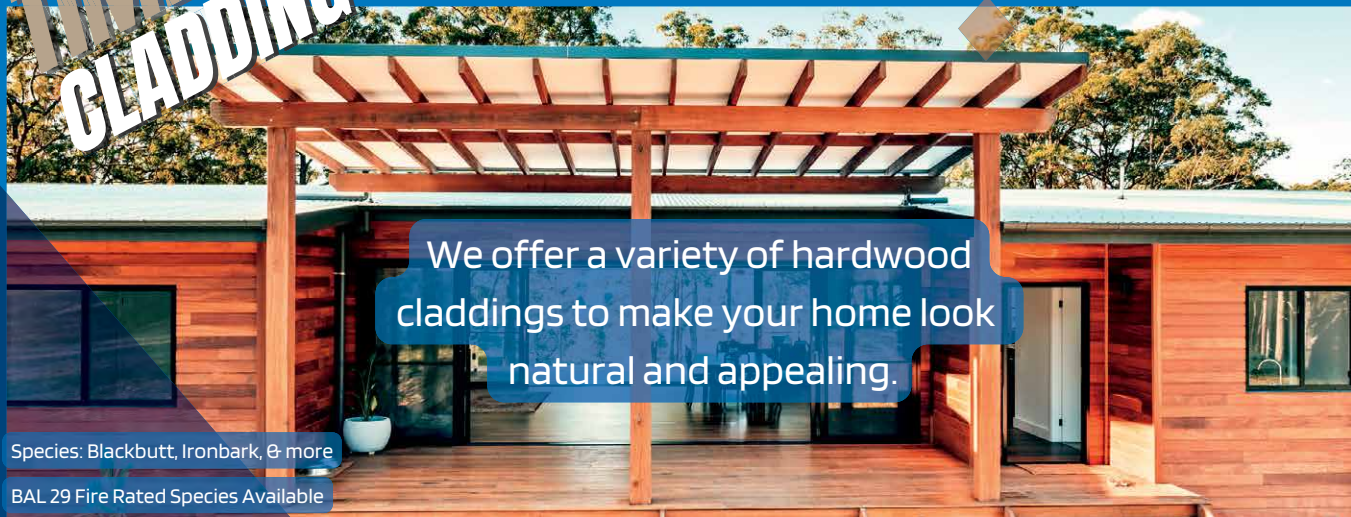
Hall has also felt the strength of the market. "Everybody wants timber cladding at the moment," she says. "If I had double the stock I have, I could sell it all. No problem whatsoever. Which is also why the American Oak is so key, because it does actually fill a gap in supply while some of our Australian sources are recovering."

PHOTOS: COURTESY DULUX

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"It means that people can keep that precise look that matters to them, without having to wait."

Hall jokes that it sounds a bit Instagram, but is entirely serious when she says that one of the key marketing tools for cladding in recent years has been through Facebook.

"We have two main channels: industry and consumers," she says. "The industry side is architects, designers and builders; and they mostly come to us in traditional ways."

"But a lot of consumer engagement has come through our Facebook page and our website, especially around Magnum Board and the American oak."

It's been a real change for the McCormacks' team, giving them an opportunity to talk directly to consumers. "What that means for us is that we get direct, free feedback on our products," Hall says. "So when we get a lot of hits and a lot of engagement around a product, we know this is something the public wants. Usually, as a wholesaler, it's very difficult, because we sell to a hardware store that then sells to a consumer or a builder. We're twice removed."

The Facebook page hasn't only helped McCormacks test the market on new



Above: A mix of Red Ironbark cladding and Magnum Board weatherboards adds drama to a simple home.

products and features, it's also helped their customers. Hall and her team take rotating shifts to cover queries and reply quickly.

"Mostly people want to know where they can purchase the products or who has it on the shelf or a rough guide to pricing, so they can go, 'OK, this is actually in my budget!'" Hall says. "Having that granular information on our website has been really important

because it means the consumer can actually check and see if we're offering the right profile, length and so on at a price they can afford. That really empowers them. They can make a quick decision and push their builder whichever way they want." **T**

For more information, visit www.mccormacksaustralia.com.au, www.porta.com.au and www.thermory.com

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Above: Viridi's Strongfloor cassettes start with a glulam base, onto which steel channels are secured. Concrete will be poured over, tying the floor together.

Working together

A mixed-material approach has helped Viridi Group to win big contracts, but can also be the key to smaller fabricators expanding what they can offer to a hungry market.

Oakhill College's Innovation Hub will, when finished, be a 4200m² timber and glass structure housing the school's science and technology facilities. It's a fairly big build, and one that involves some clever technical responses. But, says Nick Hewson, Viridi Group's chief design officer and head of product development, while this specific job might require a company like Viridi to realise it, there are lessons here that most timber fabricators can use to increase their business.

"The core difference with the Viridi proposal compared to some of the others tendering for this project was the complete package they were offering," says Hewson.

"Viridi became a one-stop shop for much of the build."

This argument for stepping into a more central role is something Hewson will be talking about at the upcoming Timber Offsite Construction event and which he sees as a way for more timber fabricators to compete successfully against steel and concrete.

LANDING THE GIG

From the start, the school was adamant it wanted a timber building. MostynCopper was engaged as the lead project manager and went out to the market with an early contractor involvement (ECI) approach.

"They understood that sort of process was going to be the best way to get the result they wanted for their project," Hewson says.

The early schematic design focused strongly on glulam and CLT. "What the Viridi team was able to offer was the mass timber components the client wanted as well as prefabricated lightweight wall cassettes and prefabricated roof cassettes," says Hewson.

"On top of that, they replaced the CLT floor with our new Strongfloor composite floor system and then brought all that together into a single package. And that was what really got the client's attention and brought us on to the project."

Replacing the CLT floor was originally proposed to make construction easier for the builder as well as lowering the costs and weight of both the building and materials transport. A happy side effect was that, over the 2020-2022 procurement and build period, the wider mix of materials has been less affected by supply issues than CLT alone.

A proprietary floor system developed by Viridi, the Strongfloor panels start with a layer of glulam. Profiled steel troughs are fabricated on a separate machine and then glued and nailed to the glulam base. The panels, which can span up to 9m, are

"What Viridi was able to offer was the mass timber components the client wanted as well as prefabricated lightweight wall cassettes."

designed to be used with Deltabeam steel/concrete composite girders (from Peikko).

"We send the Strongfloor panels to site as a unit," Hewson says. "They're put into place on the bottom flange of the Deltabeam and then the build team casts the concrete on site. It flows through the troughs and the holes in the beams and ties the whole floor together, providing a really stiff, high performing floor in the final conditions."

"It's a very thin floor, there are no big beams sitting down below the slab. So it becomes easier to coordinate mechanical ductwork, pipes, cable trays and so on."

Oakhill is one of the first projects that has used Deltabeam in Australia; Viridi supplied it for the job. "We put ourselves at the centre of the design and coordination effort on the project," says Hewson. "We're supplying glulam, some from Europe, some from Gippsland; we're supplying CLT from XLam; we're supplying our composite floor system; we're supplying the structural steelwork in the Deltabeam, and then the pre-clad lightweight walls and then the lightweight roof cassettes as well. I don't think there's any other company that could have provided all these through the one business."

"What that's meant is that our model becomes the single source of truth: we're coordinating so much of the structure that everything else then hangs off our model. We put a lot of time and resource into the project from an early stage to make that happen."

"It's a very thin floor, there are no big beams sitting down below the slab. So it becomes easier to coordinate ductwork, pipes and so on."

Which is not to say Viridi has been alone on the Oakhill build. Architects BVN and structural engineers Northrop brought their own extensive experience with timber design and construction to the project.

"We've worked really closely with both of those very experienced teams, on this project and others," Hewson says.

"And we've been able to bring a bit of our own understanding to some of the more difficult parts, like the connections. The interface between the different components is the hardest part to manage."

"Because we've got such a variety of materials coming from different suppliers, understanding tolerances and how the things are physically put together on site, and then trying to develop connections between all of those, has been probably one of the biggest design challenges, especially with new materials like the floor system and the Deltabeam. To their credit, all the members of the design team have been up for the challenge of working through the details together."

MIXED MATERIALS

Adam Strong, Viridi Group's CEO, has had a longstanding association with CLT but recent projects have more often seen a mixed material response, whether that's because of fire, vibration or acoustic requirements, or because the builder is less confident with mass timber construction.

Hewson explains that the Strongfloor system was developed as a happy medium: it brings more timber back into the build, but in a way that is easy for a traditional builder to manage. "Adam's had this product in mind for a number of years and we've finally been able to develop and test it and bring it to market," says Hewson. "It celebrates the timber but is also aware of some of its limitations. The hybrid materials deal neatly with a lot of the design and regulatory issues we see in buildings: fire, acoustics or the structural feel of the floor."

"It's a bit of a gateway drug to mass timber. While the Oakhill team understood timber well, other clients like the idea of timber, they want to see it in their builds and address >>



Above: A Strongfloor cassette is lowered onto the Deltabeam frame. Concrete will flow through the holes and channels, creating a thin, strong, flat floor.



Above: The Strongfloor and Deltabeam combination delivers thin, robust floors that can fit with walls made of light or mass timber, or other materials.

their embodied carbon, but they're not quite ready to go to a full mass timber building or they have a technical challenge around something like fire. This is a kind of happy halfway house for those clients."

In the long term, Hewson hopes to see the Strongfloor system used in the types of big inner city office projects that are built fairly conventionally at the moment. He says, "It's rare to get pure CLT floors into those for a number of reasons, mainly fire and structural performance, but we might be able to get a Strongfloor in, because it's easier for fire engineers and clients to understand."

This flexibility in materials has become a core Viridi Group design response. "We're

trying to build a broad range of products and solutions into our offer," Hewson says. "CLT and glulam are wonderful materials, but can be expensive for particular applications. By adding lightweight-framed solutions and composite materials, we can have a wide range of solutions, which means we can be more cost-effective. Bringing all these together through the one supplier means we reduce the risk of coordination issues."

LESSONS FROM THE COLLEGE

Hewson describes this coordination role as something many fabricators could profitably take on. "That work is complex and time consuming and needs a lot of skilled

resource," he says. "But for the fabricator, you can start with small steps. If you're a lightweight framing manufacturer, what else can you offer? Maybe ask yourself: 'How would we put building wrap on? How would we do battens or cladding? What more can we add to make us more integrated and take more work off site, take more of the unknowns out of a project and start to offer solutions to clients?'"

Not only does taking those extra steps provide additional income streams, it differentiates a business from its competitors.

"I don't think the building would have been built in the same combination of materials by any other business," says Hewson. "The builder would be unlikely to have taken on the coordination across all these different solutions on their own, and the project needed people familiar with the construction of timber buildings to bridge between the two parts of the timber industry – mass timber and lightweight. Everyone's worried they're going to lose market share to the other. But actually, you're going to end up with a much better, more cost-effective solution if you can combine the best parts of both into a single building."

"For example, for lower-rise buildings like hotels or barracks, a great option would be a combination of lightweight timber-framed walls and CLT floors. This offers a great balance between performance and economics and we've recently secured several buildings using this combination."



Above: The comparatively small amount of concrete used delivers a lighter, faster build.

The real competition remains traditional concrete and steel builders, Hewson says: "They're taking on a lot of the risks and design responsibilities. For a concrete-frame building, the main contractor tells his subcontractors, 'I've got a concrete frame, here are the drawings, give me a price.' And then he picks one and they offer the rest."

"We're still struggling a bit here. One company will supply the CLT, but someone else will supply the glulam and someone else has to design the fixings and someone else has to install it. The builders and the clients look at it and say, 'Well, in concrete, I just had to speak to one person; here, I'm dealing with four or five different businesses.'"

Hewson believes there are a lot of opportunities for businesses to form collaborations between complementary parties and go in together on a project with an offering that's the equivalent of what the steel and concrete sectors provide. And while he still loves CLT, he points out that it can be over-engineered for some lower-loaded applications. As at Oakhill, it can at times be partially or wholly replaced with other timber-based materials.

"If you can swap out a CLT wall panel for a lightweight framing wall, but you pre-panelise that with some insulation and cladding before you send it to site, it's going to give your client a more cost-effective

He believes there are a lot of opportunities for businesses to form collaborations and go in together on a project.

building and still be faster to install.

Ultimately, the more we can do that, the more timber we can get into more projects because we can be more cost effective."

Meanwhile, work on the three-storey Innovation Hub is complete for the lower ground and ground floors, and Hewson expects to be at roof level in two or three months. As with every build, there have been lessons learned, some unexpected.

"On the BIM front, we've got a very sophisticated 3D model, which has a lot of information embedded in it in terms of materials, grades, suppliers and so on," he says. "It's about 1GB, which is pretty unheard of. Because we're in control of so much of this build, it's been easier for us to set that up. Normally to get a project to this sort of scale, you'd have multitudes of different suppliers and consultants and trying to federate those models to be in the same sort of format with the same information is a borderline impossible task in many ways."

While he thinks the industry has started down the road to using BIM models well, Hewson readily admits there's a long way left to go. "There's a lot more opportunity to integrate that information and then make use of it," he says.

"It's all well and good putting all that information into a model – which takes a lot of time, resources and money. What do you do with it once it's there? There's a value proposition we're still missing at the moment. Once the building's ready, how does this data help us maintain it? How do we utilise all this data and make it work for us and for the people who will own or work or live in that building?" **T**

Nick Hewson will talk about Oakhill College as part of Building Project panel Session 3 at Timber Offsite Construction, held 21–22 June online and at the Crown Promenade, Melbourne. For more details, visit www.timberoffsiteconstruction.com

PHOTOS: COURTESY VIRIDI



Above: The lower ground floor at Oakhill College's Innovation Hub nearing completion. The thin, flat floors allow for services to run unimpeded.

It's the vibe

Floor vibrations can have a major effect on homes, so check for the unexpected in designs. **By Craig Kay**

Poul William Anderson (25/11/1926 – 31/07/2001) was an American science fiction author who wrote from the 1940s until the 21st century. A quote attributed to him is *"I have yet to see any problem, however complicated, which, when you looked at it in the right way, did not become still more complicated."*

I have no information on the context of this quote; I do wonder if he was talking about the issue of timber floor vibration and why, every now and then, the end result is not the same as for thousands of virtually identical floor designs.

Annoying floor vibrations are a phenomenon that virtually everyone has experienced at one time or another in a residential building. Vibration is a perceptive quality which varies with source and observer characteristics. What is a problem to one person is seen as 'normal' to another?

Hearing glasses clinking in a wall unit because someone has walked across the floor of a room is a classic example of an annoying vibration. A person sitting in a chair may be annoyed by another person's walking into or out of the room. The vibrations caused by the person's walking are felt by the person sitting, and attention is drawn away from whatever task is in hand.

Other examples causing excessive vibration are children playing, animals walking or running, and items being accidentally dropped.

The study of human response to vibration essentially began with the Reiher and Meister experiment (1931). In this experiment, a scale of human tolerance defined by peak deflection and frequency was developed in relation to steady-state (continuous) vibration applied for five minutes. The scale included the following divisions:

- i. Not Perceptible
- ii. Slightly Perceptible



- iii. Distinctly Perceptible
- iv. Strongly Perceptible
- v. Disturbing
- vi. Very Disturbing
- vii. Injurious

The key factors that influence vibration are mass, stiffness, span length and damping. Generally heavier, stiffer, shorter and highly damped floor systems perform best from a vibration perspective.

The most common source of floor excitation in a domestic residence is footfall, either from walking or aerobic exercise. Footfall can create resident or transient vibration responses.

Vibrations caused by the above activities were not as severe when larger or full-size solid-sawn joists were used in residential floors due to the higher mass and shorter spans typically associated with solid-sawn timber joists. Significant designer experience is also responsible for the lower dynamic severity associated with solid-sawn timber joists.

However, with changes in design and construction techniques, wooden floor systems are spanning greater lengths and are becoming much lighter and more flexible, and for this reason designers need

to be more diligent in the consideration of adverse floor vibration issues.

FIGURING IT OUT

The strength and serviceability design requirements for floor joists for domestic housing are found in AS1720.3:2016 Timber Structures Part 3: Design criteria for timber-framed residential buildings. The provisions relating to vibration control mirror those found in table C1 of AS/NZ 1170.0, namely the application a 1.0 kN point load at midspan of floor, with the associated deflection not to exceed 2mm. The limit on deflection resulting from the application of the action is intended to ensure satisfactory dynamic performance even though it is not a technically vibration/dynamics type equation.

The Eurocode adopts a more nuanced maximum deflection for the 1.0 kN load that varies dependent upon the span of the joist.

Maximum deflection:

$$\geq 1.8\text{mm for spans } \geq 4000\text{mm}$$

$$\geq \frac{16,500}{L^{1.1}} \text{ mm for spans } \geq 4000\text{mm.}$$

It is therefore more conservative than the formula adopted in Australian/New Zealand standards.

This criterion may be insufficient for a more complex floor system, with the table containing two accompanying notes:

1. This criterion is given as a guide to whether the floor may have vibrational problems, therefore it is not a definitive yes or no acceptance criteria;
2. Floors with a fundamental frequency less than 8 Hz should consider a specific study of the resonant response. The fundamental frequency of floors with steady state loads should be high enough to avoid resonance with the frequency of walking.

Most engineering references that provide calculation methods for determining the natural frequency of the floor only list formulas for single span rectangular floor systems simply supported along all four sides.

Light timber frame flooring has traditionally been supported by load bearing walls or rigid beams such as short span lintels, but with contemporary house designs, joists are often supported upon an array of longer span beams. It is now common for there to be two or more support beams, each with their own elastic properties in the load path between the floor joists and a solid foundation.

Where flexible beams are involved, additional flexibility of the system can lead to systems effects, and present as vibrational problems that you would not find if the floor was supported on loadbearing walls.

A BRANZ document called "Multi-storey

light timber-framed buildings in New Zealand – Engineering design," does provide engineers additional design checks for floors supported by flexible beams.

- a. The static deflection check under a 1 kN point load of the support beam should be verified for a more stringent deflection of 0.25mm or a maximum limit of 0.5mm if the lower level of vibration performance is acceptable
- b. the frequency of 8 Hz needs to be verified for the global beam floor system. This frequency can be determined with computer software and a two-dimensional model or alternatively can be approximated using the formula below.

$$f_{\text{system}} = \sqrt{\frac{1}{f_{\text{floor}}^2} + \frac{1}{f_{\text{beam}}^2}} \geq 8\text{Hz}$$

Where: f_{system} = Natural frequency of the floor system

f_{floor} = Natural frequency of the floor based upon the effective composite bending stiffness

f_{beam} = Natural frequency of the supporting beam/lintel

The end result of an extremely competitive market (in normal market conditions) is that designers/estimators from the respective EWP distributors are understandably tasked with producing a fit-for-purpose floor system

at the most competitive cost. In the absence of more rigid serviceability limit specifications, the temptation is therefore for designers to extend floor joists to the maximum recommended limits set by the codes to win work for their company.

Serviceability limits defined by standards are the maximum allowable values, and experience shows that a floor system design that extends the floor joists and supporting beam spans to the code limits, may on occasion present unexpected vibration issues and thus not be fit-for-purpose. Even the change from an assumed direct fix plasterboard ceiling to the lower edge of floor joists to a suspended ceiling, may be the catalyst to tip the result from acceptable to unacceptable floor dynamics.

To retrofit a poorly performing floor is an expensive and time-consuming exercise so floor designers need to examine the architectural plans diligently to determine if there are any design features (e.g. suspended plasterboard ceiling rather than direct fix) that may negatively affect the floor's dynamic response. **T**

Source: *Multi-Storey Light Timber-Framed Buildings in New Zealand – Engineering Design* – (David M Carradine et al, 2019), www.branz.co.nz



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



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Above: Responsible Wood CEO Simon Dorries (centre) with Jason Ross Marketing and Communications Officer (right)

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Bowens Women in Trade

Celebrating the timber industry's women and talking about Carbon Warrior. **By Kersten Gentle**

Congratulations to Bowens for another brilliant Women in Trade event which was held at the spectacular Timber Yard in Port Melbourne on Friday 25 March, 2022.

Bowens first Women in Trade event was held in 2021 and attracted around 70 delegates who packed into the Bowens trade store. One year on and 400 men and women came together to celebrate International

Women's Day and help break the bias – which was the theme of the event.

This year I was so pleased to be able to have my daughter, FTMA's marketing coordinator, Nikita join me and we both left absolutely inspired after another successful event surrounded by enthusiastic and dynamic women.

In 2021, one of the young women that

I was inspired by was Kate Lucas, an electrician, who was not only passionate about her trade, but was part of the Tradie Ladies Club who work at supporting women in trades.

Kate told me of the struggles she had at the start of her apprenticeship, turning up to site and having the odd bloke make snide comments, but Kate would confront any



Above (L-R): Chelsea Symes, Monque Burns, Melissa Manson and Bardie Somerville; Vesna Brown chaired the event and interviewed the panel.



PHOTOS: COURTESY FTMA AUSTRALIA

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PHOTO: COURTESY MULTINAL



Above: FTMA's Carbon Warrior T-shirts met with enthusiastic support at the event.

Vesna interviewed the panel, exploring the barriers they faced and their experiences working in male-dominated industries.

bias head-on and simply get on with the job. As a result of her attitude and hard work, we were pleased to hear that Kate had been awarded ETU's Apprentice of the Year for 2021, which is an outstanding achievement.

Bowens' head of Human Resources, Vesna Brown once again chaired the event and once again, Vesna was truly inspiring.

Vesna interviewed the panel of women, exploring the barriers they came up against and their experiences working in male-dominated industries, including:

- Monique Burns, MBA Victoria Legal Manager and Associate Legal Counsel
- Bardie Somerville – 4th Year Carpentry Apprentice with Cowan Build Construction
- Melissa Manson – 2019 The Block Contestant and contracts administrator
- Chelsea Symes, Bowens' internal sales and ex-cabinet maker

The panellists were superb as they talked about their careers and answered questions from the floor.

I'm never one to let an opportunity go by, so Nikita and I rocked up wearing our Carbon Warrior T-Shirts and also brought along a few spares to hand out. In no time at all we found five other Carbon Warriors including Alastair Woodard (WPV & FWPA),

Eileen Newbury (FWPA), Sarah Downey (FWPA), Rhiana Archie (FWPA) and Fiona Luckey (Dindas).

It was a great opportunity to promote the importance of timber in the built environment in the fight against climate change and it wasn't hard work either, as people continually approached us to enquire what Carbon Warrior was.

It gave us the opportunity to engage with them in conversation about the important role timber plays in addressing climate change as it stores carbon for life.

The support was unanimous with many congratulating us on taking up the fight for climate change. Rhiana even wore the T-shirt that night to the pub, where she was approached by a woman who had just produced a movie about carbon who wanted to know more about the role timber plays.

This is exactly why we established Carbon Warrior. The message is simple and clear. Timber stores carbon for life and we need to use more of it if we are to continue our fight against climate change.

FTMA Australia would like to congratulate John Bowen and his team on another great Women in Trade day and we look forward to the 2023 event. **T**

Kersten Gentle



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



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On the parapets

This unusual building feature requires a complicated series of design steps – and their related experts – to avoid problems. **By Paul Davis**

Every so often you are going to get a roof to design that includes parapets. Typically, there will be a box gutter behind at least one of the parapets. Other parapets may be required around the building perimeter to maintain a consistent look. The image in this article is taken from one of my drawings where we were commissioned to design the steelwork and the timber parapet was designed 'by others' – that being someone like you!

The hydraulic design of box gutters is often one of those aspects of construction that is left until late in the design process. There is a set of rules in the roof plumbing code that requires certain sizes, falls and space for sumps. So, before you tackle a parapet design you need to know from some other 'others' just how big the box gutter is and so how much space you have left to thread a bottom chord between the soffit and the gutter space.

If you are designing trusses supported on an extended bottom chord, as in the diagram, the chord extension acts like a

beam and so any deflections from this area can't be cambered out. So, depending on the spans, loads and geometry, the bottom chord may end up being deeper than you would expect for a truss that is of a more conventional shape. You need to make sure ASAP, preferably at quoting stage, that the roof, the deeper bottom chord, the parapet and the gutter are all going to fit in the available space.

As well as designing the truss proper, you need to design the parapet to resist lateral wind loads on its vertical faces.

As wind whips over a sharp edge of the parapet and spills onto the roof, considerable

turbulence can be generated. The turbulence means that parapet wind pressures are typically very high. Not only that, but a parapet is subject to pressures on the windward side that then combine with a suction that develops on its leeward side.

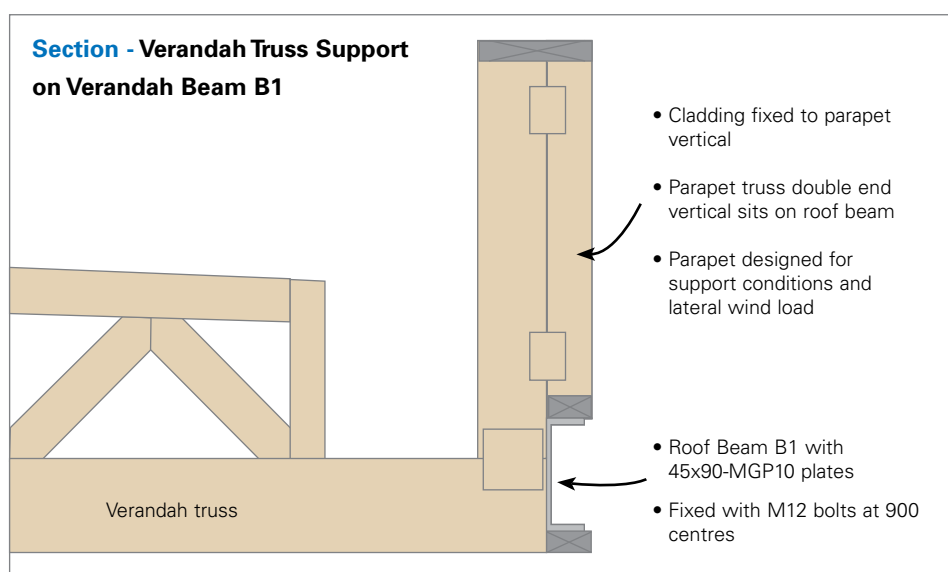
It's quite tricky to work out what the design wind load is, and I very much doubt that your truss design software can successfully do that automatically because of the complications I have described above. So, when presented with a parapet design you will probably need to get an engineer to work out the wind loads on the parapet – yet another 'other'.

Additionally, there is a need to design the parapet so that it will not rotate over – you can't just sit a wall on top of the trusses and hope for it to stay upright. Without a box gutter, the end vertical of a cut-off truss can just continue up to form the parapet. Or you can fix an additional vertical parapet timber to the side of the end of the truss

In a configuration as shown in the drawing, you can't rely upon the steelwork – it is very poor at resisting twisting. In fact, the steel relies upon the truss to hold it square – not the other way around. So, the twisting effect of the parapet wind loads needs to be resisted by a large nailplate onto the bottom chord. The joint behaves much the same as a butt-joined piece of timber or a Z-sprocket, so once again you will need your nailplate supplier's engineers to do the design. Yet another 'other'!

And, as a finale to my word play, last night at my place we had a *mother-another*. My daughter asked her mother if she knew the correct way to use a feather duster. Her instant, and instantly classic, response was "Give it to another person!" **T**

Before you tackle a parapet design you need to know how big the box gutter is.



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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