

# BUILDINGTODAY

THE OFFICIAL MAGAZINE OF THE REGISTERED MASTER BUILDERS ASSOCIATION



VOLUME 31 NUMBER 6

JULY 2021

[www.buildingtoday.co.nz](http://www.buildingtoday.co.nz)

## INSIDE:

RMBA PRESIDENT KERRY ARCHER LOOKS AT THE POSITIVES IN THE INDUSTRY: WHAT WAS YOUR MOST ENJOYABLE PROJECT?



Five handy tips for minimising building waste



Win a pack of 5 Lenox MetalMax diamond abrasive blades

ALSO INSIDE:

NZ'S LARGEST SOLAR FARM UNDERWAY > H&S: KEEPING YOUR HANDS OUT OF TROUBLE!



# Prioritising GIB® Plasterboard Waste Minimisation and Recycling

The New Zealand building industry is becoming increasingly aware of the importance of reducing the growing level of construction waste ending up in landfill.

Winstone Wallboards is actively exploring innovative ways to reduce the level of plasterboard waste being generated. Working closely with customers, local councils and waste specialists, Winstone Wallboards is exploring a range of long term waste minimisation solutions which is especially relevant given that recent data collected from New Zealand construction sites indicates that timber and plasterboard offcuts contribute the largest percentage of construction waste currently entering New Zealand landfill sites.

“Our approach is to firstly to look at ways to minimise plasterboard waste created in the first place. We are actively working to develop practical industry tools that help customers to do this” says Winstone Wallboards Residential Market Manager Gordon White.

“However, we also need to recognise the need to work with the wider construction industry to find viable solutions to dispose of plasterboard offcuts generated during the interior lining process. That’s why we are also helping to facilitate plasterboard recycling options wherever practical.”

## Christchurch and Queenstown Offcut Recycling Services Now Available

In addition to the Auckland Green Gorilla service, plasterboard onsite waste collection and recycling services are now also available in the Christchurch and Queenstown areas.

Operated by Waste Management in Christchurch and AllWaste in Queenstown, customers working on new build projects can have ‘plasterboard only’ bins delivered to site during the interior lining stage. The bins when full are then uplifted and sent to a local recycler where

the gypsum core is extracted and reused in a range of horticultural and agricultural products.

This is great news for trade customers operating in these areas who have been seeking on site plasterboard recycling service options. It’s also very useful for Homestar and Greenstar projects as it can help customers claim points for waste diversion under these schemes.

While this is good progress Winstone Wallboards recognises the need to continue working with the industry, waste providers and regional councils to further expand recycling capability into other regions where it is viable to do so.

To learn more about plasterboard offcut services, visit the GIB® website [gib.co.nz/sustainability](http://gib.co.nz/sustainability) or go directly to:

### **Auckland Area**

Green Gorilla – [greengorilla.co.nz](http://greengorilla.co.nz)

Phone 09 636 2244

### **Christchurch Area**

Waste Management – [wastemanagement.co.nz](http://wastemanagement.co.nz)

Margot Hall mobile: 027 574 3336

### **Queenstown Area**

AllWaste – [allwaste.co.nz](http://allwaste.co.nz)

0800 255 927

### **Other Regions**

Winstone Wallboards is currently working with local waste diversion providers to expand plasterboard waste recycling options.

# BUILDINGTODAY

JULY 2021

VOLUME 31 NUMBER 6

## 4-9 RMBA NEWS

RMBA president Kerry Archer looks at the positives in the industry, and tells the story of transporting prefabricated buildings through the Homer Tunnel to Milford Sound.

## 10-20 NEWS

Constructive 2021 — Restructuring New Zealand; Supply chain transformation to provide productivity opportunity; Handy tips to minimise building waste

## 22-25 HEALTH & SAFETY

The importance of hand safety; Site Safe awards applications now open; One-sized safety systems don't fit all

## 26-33 ADHESIVES AND SEALANTS

Four of the best sealants to keep water out; Adhesives — a backgrounder

## 35, 38 COLUMNISTS

EVs: Not enough pros and too many cons for NZ businesses; It's not just hiring and firing — explaining what HR is really all about

## 36-37 STRAIGHT UP WITH MIKE FOX

Hyperinflation, shortages, sending NZ building industry into potential meltdown

## 39 STATISTICS

Building consent information for May 2021.

### FROM THE EDITOR

We all know there are plenty of serious issues and challenges facing the industry at present, but this month we focus on some of the day-to-day positives coming out of the thriving building scene in New Zealand.

RMBA president Kerry Archer was asked at a recent Rotary meeting about what was the most enjoyable project he's ever worked on. Which got him thinking about the positive contribution builders make to many people's everyday lives. Read more about looking to the upside on page 4.

There are plenty of other heartening stories in this issue, from the Wintec student, waiting for a work experience contact who didn't show up, being offered an apprenticeship by a local company director who happened to be passing by, to news of a first intake of Infrastructure Skills Centre students learning about the numerous aspects of the infrastructure sector.

**Andrew Darlington, Editor**

PUBLISHER: Taurean Publications Ltd  
PO Box 35343, Browns Bay, Auckland 0753

EDITOR: Andrew Darlington 021 90 11 56  
andrew@buildingtoday.co.nz

ADVERTISING  
MANAGER: Martin Griffiths 021 662 228  
martin@buildingtoday.co.nz

*BUILDING TODAY* is the official magazine of the Registered Master Builders' Association of New Zealand. Advertising statements and editorial opinions expressed in *Building Today* do not necessarily reflect the views of RMBA members, its executive or committees; or of the chief executive and staff unless expressly stated. Further, the RMBA and members are not liable for any statements made in *Building Today* unless otherwise stated. The editor reserves the right to edit, amend or reject copy where necessary. The publisher does not assume any responsibility or liability for any loss or damage which may result from any inaccuracy or omission in this publication, or from the use of the information contained herein. No warranties, express or implied, are made with respect to any of the material contained herein.

1-year subscription (11 issues): \$57.50  
ISSN 1171-0225 (Print)

ISSN 1171-1264 (Online)

# Looking at the positives in our industry

By RMBA president Kerry Archer

Well, it's hard to believe that another couple of months have gone by and it's time to write another article for *Building Today*.

It seems our grandparents and parents were correct when they told us the older you get the faster time seems to go by — and as we've passed the shortest day we're now hitting the slippery slope back to summer already.

I look forward to this as it can get a bit gloomy at this time of the year when it's dark as you go to work and generally dark when heading back home.

But with an extra two minutes of daylight added each day it won't take long to get back to those sunny summer days.

With the rest of the country recently experiencing the sort of temperatures that we regularly get here in Southland, I'm sure we are all looking forward to it.

Recently I was asked to speak at a local Rotary meeting about the state of the building industry in New Zealand.

I gave an overview about all of the things that are currently happening, and the issues we are experiencing, all of which are well documented — councils and consents, lack of quality staff, reform changes, the supply chain, land availability, and climate change issues.

During question time at the end I was asked "what is the most enjoyable project you have worked on?"

This pretty simple question got me reflecting, and I realised that there can be a lot of negativity when everywhere we turn there seems to be a roadblock or a problem to navigate.

But this question brought me back to looking for the upside, and seeing that there are a huge amount of positives in what we do on a daily basis — and that, sometimes, it's easy to forget this.

We are lucky to work in an industry that is currently thriving and experiencing an all-time high level of activity.

And while this comes with its challenges, this is preferable to the opposite situation — that's the biggest and most obvious positive.

We get to play a major part in our clients' hopes and dreams in what is probably the biggest investment they will make — and that contribution changes lives.

Everywhere you go there is a building — whether it's a house, workplace, stadium,



restaurant, bar, airport or hotel — that we, as builders, have been involved in on some level.

This impact that we have on many people's everyday lives is also a major positive. Just don't be that guy driving around pointing and mentioning to your kids, "I built that."

There's the camaraderie of working on a building site large or small, the banter, and the sense of achievement that comes when looking back at the end of the day and seeing something you have helped to build.

Another fantastic positive is the look on a client's face when they turn up on site and get to walk through their new house that was only plans on paper yesterday. But today you have the frames up and they can walk through the rooms!

But when it's busy it's too easy to focus on the problematic side of things, and I am guilty of this myself.

What we do on a daily basis offers so many good things, of which I have listed only a few.

Don't undervalue the contribution we make to people's lives, and don't undersell yourselves. Take pride every day in your accomplishments

and wear the badge of being a builder with the pride it deserves.

\* \* \*

As a side note, the answer to the question about what was one of the most enjoyable projects I have been involved with was a project in Milford Sound.

This project stretched over a long time period, and involved taking prefabricated units to Milford Sound to be used for tourist accommodation.

The biggest challenge we had on this job was transporting the buildings on the back of a truck through the Homer Tunnel.

To address this, we had to unload them into a large custom-made steel frame and, using two 10 tonne forklifts, to basically walk them through the tunnel before reloading them at the other end and delivering them to the site.

To make this even more challenging, we needed to transport these buildings overnight so as not to disrupt daytime traffic flow.

What started off as an idea and a timber frame mocked up on the back of a trailer, led to us taking more than 30 of these buildings to Milford Sound in this manner.

To conclude on one last positive note, I would like to congratulate everyone who entered the New Zealand Commercial Project Awards held in Auckland in May, and to Naylor Love Christchurch for taking out the Supreme Award for their entry Te Raekura Redcliffs School in Christchurch.

The House of the Year awards have all been judged, and the awards nights will now be underway, so best of luck to all involved.

It will be fantastic to be able to host everyone at these events instead of having to live stream them, as was the case last year.



One of the most enjoyable projects Kerry has been involved with required the transportation of prefabricated units to Milford Sound to be used for tourist accommodation. The biggest challenge was getting them through the Homer Tunnel!

# COOL, CALM, AND COLLECTED



## BEN ROBERTS

CENTRAL NORTH ISLAND/EAST COAST REGIONAL WINNER, NATIONAL FINALIST REGISTERED MASTER BUILDERS CARTERS 2020 APPRENTICE OF THE YEAR

Ben is employed by Mike Campbell Construction and was trained through the Building and Construction Industry Training Organisation (BCITO).

### SUCCESSES

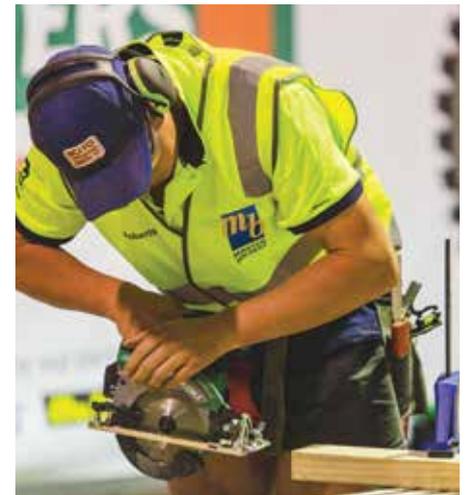
Ben was overcome with pride when representing his company, Mike Campbell Construction.

“What I enjoyed most about the national competition was representing myself and the company. Also having the boys from work and my family supporting me is something I will never forget. I was speechless when I found out I had won the regional competition. It was a complete shock. I remember struggling to say anything up on stage. It was a surreal feeling.”

### CHALLENGES

Timing constraints were the biggest challenge for Ben during the competition when he had to remind himself to stay calm and work diligently.

“The practical challenge was a great task to put me well out of my comfort zone. I had to keep telling myself that just because there is a time limit and others are watching every move I make, it doesn't mean I should allow myself to get flustered. Being able to test myself against the best apprentices from around the country was such a huge honour. It was a bonus that I knew my mud kitchen would be utilised by an early learning centre in Auckland.”



### EMPLOYER COMMENTS

Ben's employer, Michael Campbell of Mike Campbell Construction, was extremely proud of Ben's effort in the competition.

“Ben is both driven and competitive so it seemed only natural that he would enter. I was so proud of him, especially the way he performed under pressure

during the challenge day. It was evident that Ben fully understood all aspects of the complex build that he used for his application. He did a great job of calmly walking the judges through the house, explaining the detailed build process.”

OWNED BY



PRINCIPAL PARTNER



EVENT PARTNER



# A mirror to the ocean's horizon

## Third Little Pig Homes

New Home \$1.5 million - \$2 million



### Successes

This award for Third Little Pig Homes solidifies that they are a head above the rest.

Zac Williams, owner of Third Little Pig Homes, said, "I was so proud of the team and also ecstatic for the home owners. Winning has cemented our spot in the architectural and building industry, and the prestige of this award puts us alongside some big names in construction.

"My favorite feature of the build would have to be the roof; it was a challenge but also a highlight in terms of construction. You can't really see it from anywhere — in a way that's what makes it so special."

### Challenges

Building by the beach was a challenge.

"I think this build stood out due to its special design, the quality of materials, and the location. However, we did struggle with the location at points, especially as the home is built on sand which proved to be difficult at times."

### Judges' comments

"The long, horizontal layers of this home's roofline mirror the ocean's horizon — a theme that continues throughout the property. The floating nature of the roof planes is accentuated through the extensive use of floor-to-ceiling glazing and minimalist detailing.

"The bathroom is an airy and bright space that leads the eye towards the ocean, beyond the large, stacked doors. The custom-designed kitchen blends seamlessly with the open-plan dining and living area. With all appliances either integrated or out of sight, the onlooker is not distracted from the view of the beach or the inland hills."

Owned by House of the Year is made possible through the support of the following sponsors:



## A taste of Italy

### Eden Homes

GIB Show Home



### Successes

This spectacular Mediterranean-style home features an impressive design, and the team at Eden Homes were ecstatic when they won.

Rob Dines, owner and director at Eden Homes said, "We felt immense pride in the capabilities of our build team. This home is a real stand-out, from the look and feel of the home down to the finest details which are both very unique to the home."

### Challenges

When building a home that follows a distinctive and exceptional design, it is important to keep consistency top of mind.

"This build was not without its challenges, the main one being that the fit-out detail always had to be true to the architectural style of the home. Our favourite feature of the build was the towered entry and the entry gallery with oak French doors and a fretted skylight."

### Judges' comments

Positioned on a corner site that displays its charms, this Mediterranean-style show home in lavishly landscaped grounds commands immediate attention. With a sun-drenched north-facing aspect, the 275sq m house has been carefully designed to pay homage to traditional Italian villas.

The stand-out design features inside the four-bedroom home include a hand-crafted ceiling window with a skylight in a gallery foyer, oak floors, hand-crafted Italian-style doors, pocket sliding doors, and an over-height entry door. In true Mediterranean villa style, outdoor spaces consist of multiple courtyard living areas, and include a water feature, specimen trees, and topiary.

Owned by House of the Year is made possible through the support of the following sponsors:





# Strength and spirit to the finish line

## Te Raekura Redcliffs School

**CATEGORY**

Winner of the Supreme Award for the 2021 Commercial Project Awards

**ENTRANT**

Naylor Love Canterbury

**PROJECT PARTNERS**

Canopy Landscape Architects (Architect/Designer), Powell Fenwick (Engineer), Ruamoko Solutions (Engineer), Tennent Brown Architects (Architect/Designer), The Building Intelligence Group (Project Manager), Tonkin + Taylor (Engineer), Underground Overground (Archaeologist), WT Partnership (Cost Consultants)



### Successes

This project was one of great collaboration and a huge success for the community.

Graeme Earl, Regional Director of Naylor Love Canterbury, said, "There was phenomenal engagement from all parties throughout this project. Despite all the challenges, all parties remained in good spirit, and worked well to solve any issues that arose. It was a great collaborative team environment throughout, always working towards the common goals of providing a fantastic outcome for the school and community."



### Challenges

A lot of time was spent innovating in order to overcome challenges.

"This project faced several setbacks, including discovering some archaeological finds, along with the short design and construction time frames. There was also an added awareness as the construction team knew how long Te Raekura Redcliffs School had been out of the local community.

"Winning this prestigious recognition for the second year in a row is hugely rewarding, and provides great recognition of the superb efforts that our entire team have invested over the past few years."



### Judges' comments

"The construction team behind this project worked creatively alongside a group of archaeologists to ensure that the rich history of this important location was not lost. There was an impressive community effort in completing this project.

"The team never lost sight of their end goal, despite operating from an alternative school site for several years. The construction team worked very closely with the school community, consultant team, and residential neighbors to achieve a fantastic result."

Owned by

The New Zealand Commercial Project Awards are made possible through the support of the following sponsors:



# RESTRUCTURING NEW ZEALAND

TACKLING THE ISSUES FACING COMMERCIAL  
AND RESIDENTIAL CONSTRUCTION

EMPTY SHELVES, LABOUR SHORTAGES AND  
A BOOMING SECTOR – THE CONVERSATION HAS  
NEVER BEEN SO IMPORTANT

NZ CONSTRUCTION FORUM  
WELLINGTON // 12–13 AUG 2021

FIND OUT MORE:  
[CONSTRUCTIVE.ORG.NZ](https://constructive.org.nz)

REGISTER  
NOW



**CONSTRUCTIVE**  
NZ CONSTRUCTION INDUSTRY FORUM 2021

# Restructuring NZ: Tackling the issues facing commercial and residential construction

Places are selling fast for Constructive 2021 — and the conversations have never been so important.

While the construction sector is in a building boom, the industry is also facing unprecedented disruption from shortages of skilled labour and key supplies.

The issue is complex and will require short-term solutions as builders navigate the current situation, as well as long-term planning to ensure a more sustainable and robust sector for New Zealand.

The sector is also grappling with how New Zealand responds to the significant issues of housing supply and affordability, sustainability and climate change, and it is facing a period of major regulatory change. Constructive will discuss the impacts on what and how the sector builds.

With so much to discuss, this year Constructive is being held over two days to enable robust discussion and the opportunity to share ideas and opportunities.

The first day will be centred on continuing discussions on commercial construction, while day two turns to residential building.

Constructive provides an opportunity for the sector to share its views and experiences. Participants will come away with practical insights and examples to improve the way they operate in the current environment.

## An update on Constructive's speakers

In addition to Deputy Prime Minister Grant

Robertson, a range of high profile leaders for Constructive 2021 has been announced, with more to be confirmed over the coming weeks.

### Day One: A continued focus on commercial construction

- Chris Hunter, NZ Strong: One of New Zealand's leading commercial constructors will provide his views on the state of the sector and how to be effective in the current environment.
- Paul Southey, A1 Homes: As a residential builder, Paul has recognised the benefits of employing a more diverse workforce. He will share his insights into how we can expand the talent pool in the current environment.
- Peter Cody and Lara Bennett, PWC: They will share their work with the sector to define what successful and high-performing construction looks like now and into the future.
- Ross Copeland, New Zealand Infrastructure Commission chief executive: Ross will provide an update of the Commission's first year, including progress on the 30-year strategy.
- Stacey Mendonca, National Association of Women in Construction (NAWIC) president: Stacey will share her thoughts about the diversity opportunity in our sector.

### Day Two: Transforming our approach to housing

- Andrew Crisp, Ministry of Housing and Urban Development chief executive: Andrew will share insights from across the Government's

housing and urban development programme.

- Mark Holland, Hazelton Law: Mark will provide insights into how to manage risk and conflict arising from the current capacity pressures.
- Johnny Calley, Calley Homes: Johnny will share his views of how to manage current supply lines and customer expectations.
- Mark Todd, Oakham Residential: Mark is a leading developer who is focused on redeveloping Auckland to be a more workable and liveable city. He will share his views on the residential construction sector and the regulatory environment.
- Arthur Grimes, Motu: Arthur will draw on his experience as a leading economist, professor of well-being and public policy, and Reserve Bank of New Zealand chair to share his views on how we can rethink our approach to housing and social housing policy for the benefit of all New Zealanders.
- Oliver Hartwich, The New Zealand Initiative: Oliver will discuss our current approach to housing, how our problem is shared by many western societies, and what we can do to transform our approach.
- Sandra Hazlehurst, Hastings District Council mayor: Sandra will share the council's approach to addressing local housing needs, by working closely with iwi and community to understand their specific issues and to find local solutions.

For more information visit <https://constructive.org.nz/constructive/programme>.

## New era in chemical management

The new regime for classifying hazardous substances is now in effect, in the interests of making it safer for New Zealanders using chemicals.

New Zealand is now using the Globally Harmonised System (GHS 7), an internationally-agreed way of classifying chemicals.

This encompasses physical hazards such as flammability, human health hazards such as skin irritation, and environmental hazards such as how toxic a chemical is in water.

The changes primarily require importers and manufacturers to update their hazard classification, labelling, and safety data sheets.

Consumers should start to see GHS pictograms appearing on product labels, as New Zealand's chemical labelling aligns with the rest of the world.

The Environmental Protection Authority (EPA) has led the three-year project, engaging with the European Chemicals Agency, the Organisation for Economic Co-operation and Development (OECD), domestic regulators and stakeholders, including industry and the public.

The project received \$820,000 of funding in Budget 2019 to bring New Zealand's 20-year-old hazard classification system up to date.

Although there is a transition period through to 2025 for many requirements, the EPA is strongly encouraging industry to comply with the various changes sooner rather than later.

A large and diverse number of chemicals classed as hazardous substances are in use in New Zealand.

The EPA is responsible for approvals covering more than 150,000 hazardous substances regulated under the HSNO Act.

The next phase of the project is to complete a move to the International Uniform Chemical Information Database, later in 2021.

# SmartMate<sup>®</sup> Charge has gone mobile

## Our smartest business tool just got smarter

SmartMate Charge  
is a flexible on-account  
solution to meet the  
needs of trade and  
business customers.

- Access your trade pricing
- Secure mobile payment
- Purchase at any store on one account nationwide
- All from your mobile phone



It's FREE and easy to  
apply online at  
[www.mitre10.co.nz/trade](http://www.mitre10.co.nz/trade)

# MITRE 10

A Mitre 10 SmartMate<sup>®</sup> Charge Account is available to selected customers nationwide. Normal credit criteria apply when opening a new account. Terms and conditions apply.



## Earthquake-prone building system evaluation released

The Ministry of Business, Innovation and Employment's first evaluation of the earthquake-prone building system shows that the system is working well overall, and provides useful information on how it can be further improved.

"While it is still early days, we are pleased to see that, overall, the earthquake-prone building system is well-regarded, and is seen as an improvement over the previous system," MBIE building policy manager Amy Moorhead says.

"The evaluation shows there is broad support for the earthquake-prone building system policy development and design, and that the system was adequately implemented.

"The report also provides useful information for us to act upon to help us continually improve the system over the next 50 years, such as improving the information and guidance MBIE provides to owners of earthquake-prone buildings," Moorhead says.

"The evaluation noted that most owners of earthquake-prone buildings want to do the right thing and remediate their buildings, but some have struggled to navigate the system.

"In response, the MBIE will soon kick off a programme of work around the future strategic direction of the system.

"This work will focus on how to best support owners to comply, how to improve information and guidance to owners of earthquake-prone buildings, and how to continue to monitor the system as it progresses," Moorhead says.

The new system came into effect on July 1, 2017, after substantial legislation changes were made around how earthquake-prone buildings were identified and managed in New Zealand.

The MBIE began evaluation of the system in 2019 to gain early insights on how well it was working, and to identify areas where it could be improved.

The resulting report — *Early insights – Initial evaluation of the earthquake-prone building system* — is available on the MBIE web site.

## Coresteel Canterbury unveils architecturally-designed warehouse



Coresteel Buildings Canterbury hosted a crowd of around 70 people at a showcase event in Christchurch recently to celebrate the opening of its client Kenneally Timber's new premises.

Coresteel Buildings Canterbury hosted a crowd of around 70 people at a showcase event in Christchurch recently to celebrate the opening of Kenneally Timber's new premises.

Guests enjoyed the bonus of meeting Highlanders rugby players, as Coresteel is a major sponsor of the franchise.

"The showcase event was a great opportunity for Coresteel Canterbury to show off our latest build, Kenneally Timber," Coresteel Canterbury owner Stephen Fitzgerald says.

"It was awesome to have Highlanders players NeHe Milner-Skudder and Tim O'Malley there to support the building reveal," he says.

The building is an architecturally-designed, 1000sq m warehouse plus 200sq m office and showroom.

Kenneally Timber produce and supply timber to the wider Christchurch market, and have done so for more than 50 years.

The company approached Coresteel Buildings Canterbury to design and build a custom 1200sq m warehouse to support their new phase of growth.

Coresteel's Tapered Box Beam portal system truly won Kenneally Timber over. Without

supporting brackets or braces, the Tapered Box Beam system is perfectly suited for large-scale warehouses because it adds extra internal space.

Coresteel managed the process from start to finish with their in-house design, engineering, manufacturing and construction teams.

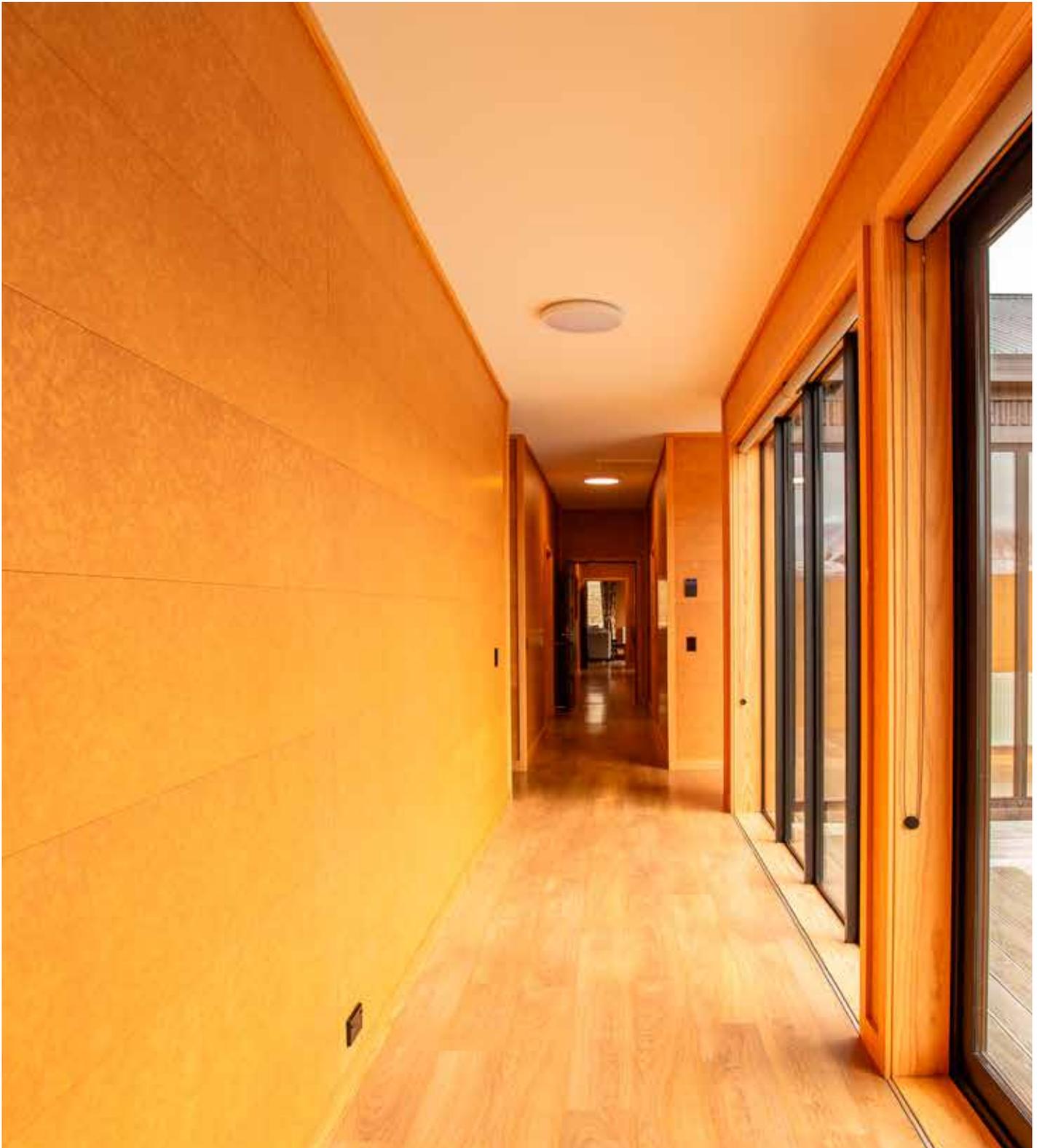
This meant the Canterbury team could deliver the project within a shorter time frame while maintaining a cost-effective price for the client.

Best of all, the project resulted in a satisfied customer.

"We are absolutely thrilled with the finished product," Kenneally Timber owner Declan Kenneally says.

"Coresteel has absolutely nailed this project from start to finish. From the initial meeting, design build concept and costing, through to the planning meetings and construction, everything was completed on budget and on time.

"It is now our job to complete the yard and racking fit out. If we can complete it to the same high standard, quality and professionalism as Coresteel it will be a final product we can truly be proud of," Kenneally says.



**triboard**  
engineered panel

**TGV**

**Premium wall lining**

Engineered by Juken New Zealand, Triboard TGV is a three-layered panel, with a wood strand core, sandwiched between MDF outer “skins”. The result is a clean-lined panel that has great resistance to impact. The dimensionally stable core provides superior screw holding ability, and the tongue and groove system allows for fast and easy installation. For more information go to [jnl.co.nz](http://jnl.co.nz)



## 'Work experience for a lifetime' launched

The civil construction and infrastructure industry has teamed up with government, industry bodies and employers to help meet New Zealand's infrastructural skills challenge.

The Infrastructure Skills Centre has been developed jointly by Fulton Hogan, the Ministry of Social Development, Civil Contractors New Zealand, the Construction Sector Accord and a range of civil construction employers to give New Zealanders a unique range of experiences.

The first intake of 12 participants assembled in Christchurch recently for an intensive six weeks, learning about the many aspects of infrastructure and the skills that underpin the industry.

Trainees are employed prior to the course, and will be mentored by the companies they are employed by throughout their training.

There will be another intake in Auckland in October. The results will then be assessed, and the concept refined as necessary for the future.

Fulton Hogan NZ chief executive Graeme Johnson says the Centre aims to give people an experience that can set them up for a lifetime in infrastructure — an across-the-board appreciation of the various skills required in building, operating and maintaining infrastructure.

He says that starting "on the tools" after attending the Infrastructure Skills Centre, along with subsequent industry training, can lead to a diverse and satisfying career and be a stepping stone to managerial careers.



*The pilot Infrastructure Skills Centre trainees ready to start.*

Each intake will have 22 practical hands-on sessions, 32 theory-based class sessions and six site visits — to Allied Concrete, Stahlton Precast, Miners Road Quarry near Christchurch, Fulton Hogan's Canterbury laboratory, a civil construction site and an asphalt plant.

The modules are facilitated by a team of 26 Fulton Hogan workplace instructors and subject matter experts.

The skills covered range from effective communication to environmental awareness/management, health and safety, budgeting, time management, nutrition and mental health awareness, through to concrete pouring and finishing, reading and interpreting plans, applying asphalt, traffic control and use of power tools.

Course entrants will go to jobs after the course with major sector employers — Higgins Contractors, Fulton Hogan, Blakely Construction, Isaac Construction, Better Trade

Solutions, Christchurch Ready Mix Civil, BG Contracting and Rock Control Ltd.

### Partners' quotes:

#### Fulton Hogan NZ chief executive Graeme Johnson:

"In our sector you can start from the coal face and develop a life-long career. You just need the right attitude, work ethic and to take the opportunities that are put in front of you.

"The opportunities presented by the Infrastructure Skills Centre are more than personal — they include making a sizeable contribution to the community. Infrastructure is the foundation of healthy, prosperous and safe communities, so involvement in infrastructure is a pretty noble cause."

#### Civil Contractors New Zealand chief executive Peter Silcock:

"There are rapidly expanding work and careers opportunities in New Zealand's infrastructure industry right now. This means we need better systems to ensure people start out with the right skills and knowledge for a successful career constructing and maintaining the country's essential water, transport, energy and internet networks.

"The Infrastructure Skills Centre pilot is a great initiative, based on an existing model operating in Melbourne, with the potential to significantly increase our ability to bring new people into the industry."

## Accord to fund improved specialist trades business performance development

The Construction Sector Accord is funding the development of a benchmarking scheme to improve business performance for construction specialist trades, as part of its work to lift business performance in the construction and infrastructure sector.

Construction Sector Accord director Dean Kimpton says promoting better business practice is a key goal of the Accord Transformation Plan.

"We know it's difficult for businesses — especially smaller ones — to access information on how to run a successful and high-performing construction-related business.

"These new measures will greatly benefit the mostly small or medium businesses that deliver our specialist trades, including those in

the electrical, plumbing and gasfitting, roofing, scaffolding, steel, concrete and ventilation sectors," Kimpton says.

The Registered Master Builders Association (RMBA) will adapt measures already developed for lead contractors in the vertical construction sector, which include around 60 financial, operational and commercial metrics.

Businesses will upload metrics into a web-based system, and they will receive reports on their business and wider industry trends.

"The business performance metrics framework will allow businesses to benchmark themselves against their peers and identify opportunities, leading to higher performing and more resilient businesses," RMBA chief executive

David Kelly says.

"We know this approach works from our work with the Vertical Construction Leadership Group, and we know from listening to our members that smaller businesses need this sort of support."

The project's delivery will be supported by the Specialist Trade Contractors Federation.

"SME construction businesses make up the majority of the sector and are sensitive to economic cycles," Federation president Graham Burke says.

"Improvements for this sector will have a significant impact on lifting the overall construction sector's performance and resilience."

# HIKOKI

## HIKOKI APPRENTICE CLUB

#TeamGreen



HIKOKI 36V Multi Volt  
High Powered  
125mm Angle Grinder

**KIT INCLUDES**

- **G3613DB** 36V High Powered 125mm Angle Grinder
- **UC18YSL3** 32 min Rapid Smart Charger
- 2x **BSL36A18** 1080W Multi Volt batteries
- System Case Storage System

### APPRENTICE BONUS\*

When you purchase this 36V Grinder Kit and register for the HIKOKI Apprentice Club online [www.hikoki.co.nz/apprentice-club](http://www.hikoki.co.nz/apprentice-club)

Receive this  
hot bonus  
for **FREE!**

via online redemption.



HIKOKI Brushless 36V 185mm  
Circular Saw Bare Tool with System Case

**BONUS VALUED AT \$499 RRP**



SCAN FOR  
MORE DETAILS

\*Available for current Trade Apprentices only. Limited to one purchase/bonus per apprentice. Offer ends 31 July 2021. T's & C's apply, see [hikoki.co.nz](http://hikoki.co.nz) for details

## Supply chain transformation to provide productivity opportunity

A survey of Australian and New Zealand construction companies by industry analysts Frost & Sullivan has identified supply chain transformation and overcoming roadblocks as key future shifts for the billion-dollar sector as it builds stronger foundations post Covid-19.

Frost & Sullivan recently released its survey findings in a whitepaper supported by construction payment management experts, Payapps.

*Connecting the Construction Workplace of the Future: Digital Transformation & Collaboration in the Construction Industry* details insights into challenges and opportunities facing the construction sector, a critical indicator of New Zealand's economic health given its significant contribution to GDP.

The findings were based on a survey of project and operation directors, engineering managers, IT managers, CTOs and CIOs across New Zealand, as well as Australia and the UK.

Frost & Sullivan identified five future shifts likely to impact the construction workplace of the future in the New Zealand and Australian markets. They were:

- Supply chain transformation and overcoming roadblocks (55%)
- New materials (52%)
- Off-site construction (42%)
- Needs and requirements of employees (42%)
- Sustainability-driven changes (41%).

Frost & Sullivan found that construction firms continue to face significant challenges, including operating with a heavy dependence on manual labour, mechanical and outdated technology, and rigid operating and business models, resulting in low productivity.

Those able to adapt faster and reduce their cost base were more likely to experience greater productivity.

Inherent factors to productivity stagnation include inadequate planning and scheduling leading to delays and backlogs, idle time spent waiting for materials and equipment, lack of collaboration and communication between stakeholders leading to job fragmentation, inefficient contract approaches, and disputes over claims.

Along with the aim of reducing operating costs, increasing competitiveness and reliability of operations, and income growth, 47% of organisations are looking to improve contractor relationships and outcomes through digital transformation.



*Payapps chief operating officer Tony Simonsen.*

This, in turn, is leading to greater digital transformation in the industry, with those leaning on technology removing pain-points.

As one example, the analysts found mature construction companies are increasingly investing in the automation of back-office processes.

This is generating a more positive return on investment by innovating what are traditionally complex, cumbersome and manual tasks — such as the management of progress claims across the supply chain.

For instance, 73% of survey respondents are leveraging cloud computing software and services in 2021 for operational support.

Digital tools remain under-utilised, with around 30% of surveyed respondents using spreadsheets and similar applications for payment data management systems.

### Cloud payment options increasingly popular

However, cloud and software-as-a-service solutions that provide payment options on a flexible basis are becoming increasingly popular.

Frost & Sullivan senior vice-president Ravi Krishnaswamy says digitisation will play a big role in the transformation of the construction sector, with many companies still operating inefficient manual processes.

"There are a lot of strategies and plans, and one of the concepts that has gained a lot of ground in recent years is lean construction," Krishnaswamy says.

"This is the general concept of co-locating project participants, including general contractor, designer, and subcontractors in one single room — aka virtual platforms.

"This is clearly the way forward, and is an

obvious way to create value for the end user and customer."

Krishnaswamy also highlights technology tools impacting the industry at large.

"The industry is taking steps towards full autonomy as the likes of AR and IoT, autonomous machinery, prefab and 3D solutions become mainstream.

"Drones are already being extensively used for monitoring, specifically for security and maintenance purposes. As we move forward, we'll continue to see significant changes taking place, even with the next two to three years dictating how key stakeholders will utilise the likes of AI to advance operations.

"The inherently competitive nature of the construction industry and technological advancements in adjacent industries are expected to push the industry towards automated solutions by 2030," Krishnaswamy says.

Payapps chief operating officer Tony Simonsen says the findings demonstrate the construction sector is undergoing significant change to build stronger foundations for the future.

"In the New Zealand market, the survey found the major influencing factors driving digital transformation in construction are the need to reduce operational costs, increase competitiveness, and ensure their operations are reliable," Simonsen says.

"Like all businesses, construction firms are seeking to achieve income growth but for those awarded contracts, improving contractor relationships and outcomes is vital as they move out of a Covid-19 environment and towards a more sustainable future.

"In construction, time is money, and solutions that allow for connectivity or a platform that promotes interoperability is a more cost-effective way forward.

"Easy integration of data that allows for data analytics is crucial to reduce the arduous nature of the process and performance management functions," he says.

The whitepaper also details that the introduction of cloud-based automated payment systems using cloud-based tools is helping construction industry players handle progress payments from a single interface.

"Paying vendors on time is key to attracting top-notch subcontractors to bid for projects, and enabling project and accounts teams to streamline the management of payment claims, onsite, saving considerable time and money and freeing up staff to focus on higher value tasks," Simonsen says.

## Chance meeting sees 16 apprentices employed in Huntly

When Boydy Scott pulled into Placemakers Huntly and saw a Wintec student waiting for a work experience contact who hadn't shown up, he said, "Jump in, you can help us out today."

That was the start of a job for the Maori and Pasifika Trades Training student at Builtsmart in Huntly that has since turned into 16 Wintec apprenticeships for Wintec students.

"He has turned out really well," Scott says — and the opportunities keep coming as Builtsmart continues to grow, putting quality-built classrooms and modular homes within reach of New Zealanders.

Two years ago, Scott and his wife Aimee, who were living in London, had no plans to be part of the business that her father, Philip Leather, started in Huntly 38 years ago. But he managed to lure them home.

"He knew I was into my sport science, not building, and Aimee is a teacher. But my father-in-law said 'you use your coaching and teaching experience to build and run the team of contractors,' which is what we are doing."

Around 40 employees, contractors and apprentices work at Builtsmart, turning around classrooms in four to five weeks, and houses from four to six weeks.

It's a building yard like no other, with slick undercover bays where buildings are made and trucked out from Huntly to Northland, down to Wellington and everywhere in between.

Contractors and crew have been here for the long haul, and Builtsmart keeps it as local as possible, supporting Huntly manufacturers and creating jobs for the local community.

Maori and Pasifika Trades Training students

come here for work experience, and Scott says around 75% of them stay on and get a job.

"They come to us and start from scratch," he says. "That means sweeping the floor if it's needed."

"Everyone is different but we can show them what to do, nurture them, give them some lunch if they have none."

"Most are hands-on, they learn by doing, and once we throw them in with a builder, it can be surprising how fast they pick it up."

"You can teach anyone to build, but we look for natural willingness, and motivation. If they have that, then we know we're going to get a good worker and they are going to get a lot back from their career."

He recalls offering a group of work experience students the opportunity to learn concreting, but they had to show up at 1am.

"It's tough when you're young and you don't have transport. But just one guy walked here all the way from Huntly West. He may not have been the most skilled worker when he arrived here, but he was motivated, he picked up the skills and we gave him a job."

Huntly-born and bred carpentry apprentice Marshall Thomas has been with Builtsmart for more than two years, and he's now a year into his building apprenticeship. He had no career plans, but heard about Maori and Pasifika Trades Training at Wintec from a friend.

"It was free, so I thought yeah, I'll give it a try," he says. "If it hadn't been free, then I wouldn't be here. It's been a great opportunity for me. The people are really good here."



*Builtsmart's community is proudly grounded in Huntly. Apprentice Marshall Thomas (left) and project manager Boydy Scott (right) are part of a growing business that is putting people first.*

Recently Thomas became a dad, and when asked what the future holds, he says one day he wants to run his own crew.

Builtsmart's community is proudly grounded in Huntly, and Scott is quick to point out that few people hear about the good stuff going on.

He says the town is home to "the best rugby league club in Aotearoa" and people like runner Ants Pitman, who has turned his life around and is training Huntly's kids, two initiatives which Builtsmart is proud to sponsor.

Over the fence, a housing development will soon take shape — another feather in the cap of Builtsmart's director who wants to create accessible housing for people like Thomas who have found work, a career and a future in Huntly, thanks to a company that cares.

"If you provide a happy, whanau-centred environment, everyone will stay. It's not all about the money, and that's what we are doing here," Scott says.

### BUILDING PERFORMANCE

Learn more about the Building Code update programme at

[www.building.govt.nz/building-code-updates/](http://www.building.govt.nz/building-code-updates/)



# Christchurch demolition innovators' handy tips to

Pioneering demolition company Taggart from Christchurch has proved you can salvage between 70% to almost 100% of construction and demolition (C&D) waste from landfill.

The company has salvaged more than 98% of the remains of Lancaster Park's Tui Stand.

The Taggart team crushed and reused concrete from the stand for civil construction projects, and gravel hardfill was reused under the Nga Puna Wai sports grounds.

Taggart chief executive Paul Taggart says a big motivator for the business to reduce waste was becoming the first company to achieve a C&D Waste Services ecolabel from Environmental Choice New Zealand.

Taggart applies the ecolabel to projects that meet strict environmental standards for reduction and measurement of waste.

"Because the ecolabel sets the toughest standards for C&D waste removal in New Zealand, it's a high benchmark for us to set ourselves against," Taggart says.

"In the year since we got the ecolabel, 14 of our projects have achieved its standards. That means we have diverted thousands of tonnes of waste from landfill by relocating, recycling, reusing or repurposing materials from demolitions."

C&D waste accounts for almost half of all waste in New Zealand's landfills, and is increasingly under scrutiny by the Government and councils.

Taggart has five pieces of advice for others tackling New Zealand's biggest waste stream.

## Know your reasons

After the Christchurch earthquake and the rebuild, the volume of material going to dump was "mind blowing", Taggart says.

"I thought there had to be a better way to clean up the city. That's when we really started to think about how to reuse, recycle or repurpose materials.

"We're all passionate about our work, and diverting waste from landfill has become part of our culture. We are now more about resource reuse and recovery than standard demolition."

## Third party certification

Taggart says the company sought the Environmental Choice New Zealand ecolabel to



Reused demolition waste has been transformed into a poultry feeder (left) and a brazier (above).

set the company apart from competitors, and provide verification of its waste-reduction processes.

"It shows we are different from those that knock buildings down and take things straight to the dump.

"Having the ecolabel helps us win tenders, especially in the public sector. After deconstructing the Tui Stand, we moved on to the concrete floors and foundations of Lancaster Park and recycled the concrete back in the park.

"Steel will be sold as scrap. That means we have achieved 100% recovery on this project. Having the ecolabel sets a standard, and inspires us all to think creatively about how we can divert, reuse or recycle waste."

## Targets

One of the largest obstacles facing New Zealand is the lack of measurement around construction and demolition waste. The Environmental Choice ecolabel has strict requirements for measuring and reporting.

Taggart says diverting 70% was the minimum to achieve the ecolabel requirement, but the team wanted to beat that where they could.

"Each project has its own waste minimisation plan, including how we will sort and separate materials on site. Concrete and brick are processed, crushed and recycled for use in civil construction projects such as car parks."

## Costs and benefits

Taggart says the real driver for the company is that the cost of dumping is very expensive, and

it's a big bonus if they can find smarter ways of dealing with materials that bring an environmental saving as well.

"We found being reuse-focused didn't add more time, and because we won more work as a result, we were able to invest funds into new equipment."

## Staff engagement

Taggart says each year, the company's employees take on a sustainability challenge, and last year decided to see what else could be repurposed within the business rather than sent to landfill.

"We had 14 teams competing — each team could only use materials from their site.

"They were given eight hours to create an item that was auctioned on TradeMe, with the proceeds going to the team's chosen charity. The winning inventions — a brazier, a poultry feeder and a dog bed — raised more than \$1500 for charity."

Environmental Choice New Zealand chief executive Francesca Lipscombe says Taggart's achievements show companies do not need to sacrifice time or cost to achieve results that are environmentally best practice.

"Paul and his team are leading by example. New Zealand has one of the highest rates of landfill waste disposal in the developed world, but Taggart has shown that reducing waste is not only good for the country, but it's good for business, too."

To find out more about how Taggart Demolition achieved its ecolabel, visit the Environmental Choice New Zealand web site.

# minimise building waste



Pioneering demolition company Taggart from Christchurch has proved that between 70% to almost 100% of construction and demolition waste can be kept out of landfill by salvaging more than 98% of the remains of Lancaster Park's Tui Stand.



STC Rating - 67  
 Rw Rating - 67  
 FRR - 120/120/120  
 Cavity width - 20-40mm cavity  
 Wall Width - 296-336mm



## **NTEGRA** LIGHTWEIGHT CONCRETE SYSTEMS

Intertenancy sound and fire proofing just got easier.

Our central barrier intertenancy wall system designed for medium & high density housing developments. Fast install, that performs.

Enjoy the benefits of our tested, trusted barrier intertenancy walling system for your next project.

Visit our website to discover more about our range of construction systems and interior finishes.

## **Resene** Construction Systems

[www.reseneconstruction.co.nz](http://www.reseneconstruction.co.nz)  
 0800 50 70 40

## **ROCKCOTE** | Plaster Systems

# New Zealand's largest solar farm underway



Prime Minister Jacinda Ardern turned the first sod at a ceremony to mark the start of construction of the country's largest new solar farm.

Prime Minister Jacinda Ardern has turned the first sod at a ceremony to mark the start of construction of the country's largest new solar farm.

The solar farm, which is being built in Pukenui in the Far North by Far North Solar Farm, will cover 12 hectares and contain 32,000 solar panels.

Once complete, the \$30 million facility will generate enough clean and renewable electricity to power the annual load of 3000 homes. Most of the power generated by the farm will be consumed in Kaitaia or further north.

Far North Solar Farm director Richard Homewood says it is hoped the solar farm would be operational by the end of the year.

"We are excited to be embarking on this journey of large-scale renewable energy generation in New Zealand, but this is just the start," Homewood says.

"We plan to develop one gigawatt of solar generation in New Zealand by 2025. This will generate enough electricity to provide for 20% of the entire country's daytime power requirements."

Homewood says the Pukenui solar farm would be installed on leased land, but the solar array and accompanying technology would be owned and operated by the company.

Three shipping container-sized electronic converters will collect the power generated by the panels and convert it to grid power. Power will then leave the solar farm via an underground cable which connects to the local Top Energy substation, conveniently located across the road from the site.

Homewood says generating power in the Far North would increase local power supply reliability throughout summer peak loads when line capacities were reduced due to high temperatures.

"Using solar power during the day means there is more hydro-generated power left in the grid for use during the evening and in winter when less sun is available," Homewood says.

The project will spend millions of dollars locally during the construction phase, as well as create the equivalent of five permanent full-time jobs in the region which would be required to maintain the facility.

## Building & Construction Law Conference on soon

Managing risk and commercial outcomes continues to be front of mind for the construction sector, with factors such as increased demand for people and product, hikes in the cost of building materials and delays all putting pressure on the building supply chain.

The 5th annual Thomson Reuters Building & Construction Law Conference will address the key legal, regulatory and compliance issues affecting the sector as the industry continues to navigate the new normal.

The conference is taking place on September 2, 2021, at the Cordis Auckland or via livestream.

Learning can be extended at the pre-conference workshop on dispute resolution in the construction sector.

Information on the agenda, speakers, workshop details and how to register can be found at [www.thomsonreuters.co.nz/events](http://www.thomsonreuters.co.nz/events).

## Manage your business information intelligently

New Zealand has a variety of legislation relating to business information.

Financial legislation requires businesses to provide financial reporting, and records of GST and income tax. And employment legislation requires employers to keep track of holidays, wages and contracts.

All legislation requires that information be retained for a specific time period and, in most cases, it is an offence to keep the information longer than required.

It is also imperative that this information is gathered and stored in a secure environment to avoid a data breach under the Privacy Act 2020.

By outsourcing storage of physical records to a trusted third-party provider such as TIMG, office space is freed up and files will be stored in a fully secure environment.

Individual files or entire boxes can be easily retrieved via an online customer portal.

Once the information has reached the end of its retention period, TIMG can securely destroy the paper and send it for recycling.

For more information visit [www.timg.co.nz](http://www.timg.co.nz).

# Plan for a changing marketplace

When the industry is as strong as it has been, it is easy to forget to plan for a changing marketplace and your future success.

**B**uilders are notoriously passionate about building. You'd have to be.

Every builder knows it is not an easy business to be in. But when the industry is as strong as it has been, it is easy to forget to plan for a changing marketplace and your future success.

More than at any other time, land is scarce and time frames for titles have stretched.

In these conditions, it is easy to feel that your current capacity has been reached and to neglect to plan for new customers four to twelve months away. But you will need to be finding them now!

NewBuild's customers traditionally take months to determine if they want to build, where they want to build, who they want to build for them, and lastly, if they can even afford to build.

Through the entire decision-making process, the vast majority of your prospects' projects will fall by the wayside.

Some builders take a "low hanging fruit" approach to their business — if the clients eventually pick them they hope this will keep them busy.

During peak times this approach probably works, but when it goes quiet — which can happen suddenly — many builders find they have neglected preparing their future prospects to build with them.

There are many reasons why clients fail to get to the start line, but their bank may be the biggest reason. You have probably noticed that banks do not like to finance builds — they prefer to tell their clients to just get a Turnkey.

Having a relationship with a lender that focuses exclusively on funding builds is an important step in filling your future business pipeline.

It also lets prospective clients who visit your web site (and they all will) know you are sufficiently savvy to have a finance solution that answers most of their concerns.

And the cool thing to note is that more

than 25% of our clients that visit the finance tab on a builder web site do so between 10pm and 3am at night, so you can sell homes while you sleep.

Daily headlines tell us what we already know — demand is high and clients appear to be scrambling to secure land and a builder.

However, the winds of change are already starting to blow thanks to government intervention and rising interest rates.

Now is the time to plan for change and to fill your pipeline by working with a lender who has the product and expertise to get your clients across the line.

## Is it time to play in the sandpit with the big kids?



### Add a branded finance option on your website!

**Finance is a really important decision for your clients. Pointing them to a construction loan that works for you and them is easy and lets your website generate leads while you sleep! Include your brand on the link and let your prospects access the best construction loan in NZ. Important features include:**

- Lower deposit than buying an existing home
- Lower deposit to build an investment property
- No loan repayments until the build is completed – client funded turnkey

- Bank funded at bank interest rates
- Current discounted construction loan (floating rate) of 1.79%

Let us know if you'd like to add a qualifying calculator or a client funded construction loan to your website by emailing **NewBuild** at [info@newbuild.co.nz](mailto:info@newbuild.co.nz)



# The importance of hand safety

**H**ands are by far the most commonly used tool in the building trade, so how do you protect your team from injuries?

If hand safety isn't one of the first things that comes to mind when you think of workplace safety, you should think again. An employee's hands are their go-everywhere/do-everything multi-purpose tool.

So it should come as no surprise that hands are usually involved somehow when it comes to three of the most common workplace injuries — lacerations or punctures, falls, and repetitive-use injuries.

Serious injuries, especially to an employee's hands and fingers, are painful and expensive. And the costs of a hand injury aren't just borne by the employee who suffers it.

If the injury is severe enough, there will be care and treatment costs, family members will have to care for them at home, and fellow employees must pick up the slack at work.

Even small cuts can mean hours, days or weeks of lost production and work time, to say nothing of the employee's pain and aggravation.

Fortunately, these types of hand and finger injuries in the workplace are pretty easy to avoid. As the Benjamin Franklin proverb goes, "An ounce of prevention is worth a pound of cure."

## Hand protection — what to do?

So what can you do to protect your employees — and, indirectly, your business — from potential hand and finger injuries?

How do you ensure workers are using the best of everything, from practices to protective equipment?

What are the best ways to establish and disseminate hand safety tips in the workplace?

Your workers and your business will be much better off if you take the precautionary route by implementing some or all of the following hand safety tips, than if you don't.

One of the more obvious ways to offer hand and finger protection is to require employees to wear Personal Protective Equipment (PPE) in the form of gloves. But there are a ton of types and options, so which ones should you choose?

As with any other form of protective equipment, it depends on the industry, work environment, and the type of work your employees are doing.

There is a wide range of hand PPE options available, such as industrial hand gloves, cut



resistant gloves, chemically-resistant gloves, and coated gloves.

In addition to hand protection PPE, if employees are using cutting tools or working around sharp objects, they should be adequately trained on the tools and equipment they're using.

Workers should also be reminded to use and respect equipment safety features and machine guarding, and to choose the right tools, and use them the right way, for the right job.

Hand safety toolbox talks are a great opportunity to focus on particular areas of safety in the workplace, and a hand protection toolbox talk should definitely be in your regular rotation.

Some hazards you'll want to highlight, and discuss how to avoid, might include:

- Lacerations and punctures.
- Pinches and crushes.
- Muscle strain and overuse.
- Hazardous surfaces and substances.
- Hand smashes or abrasions when carrying objects.
- Hand impact from a slip or trip and fall.
- Reaching into machinery or other hazardous areas.

If you need inspiration, or even a ready-made meeting plan to discuss hand hazards in the workplace, try the *Hand Safety Toolbox Talk: A Ready-Made PDF Guide* ([sliceproducts.com](http://sliceproducts.com)).

It's easy to hang a hand safety poster in the break room or throw in a couple of tips or reminders in your hand safety presentation.

## Get feedback, offer incentives

But the more commonsense the suggestion, and the more often they hear it, the less likely your employees are absorbing the message.

Get them involved by offering incentives, asking for their thoughts and opinions, having them share personal experiences, and using teamwork or competition.

Encourage workers to adopt a "stop-look-think" mindset before beginning every task.

An example of hand safety awareness activities you could encourage in your workplace might include setting a mindfulness timer to ring every so often, to remind employees to pause and assess their current level of focus and awareness, as well as where and how they've been using their hands.

If they find their mind has been wandering or they've been operating on autopilot, the timer going off regularly will be a constant cue to bring awareness back to the task at hand.

# Safety awards applications now open

Awards acknowledge safety innovation and leadership in the construction industry

The 2021 Health, Safety and Wellbeing Awards held by Site Safe acknowledge people, sites or companies/organisations who have demonstrated innovation and leadership in helping to improve health and safety in the construction industry.

There are five categories available for entry:

- The Safety Innovation Award for small-to-medium businesses,
- The Safety Innovation Award for large businesses,
- The Safety Leadership Award for small, medium or large businesses,
- The Safety Contribution Award for individuals or small teams, and
- The Mental Health and Wellbeing Award for companies, organisations, teams or individuals.

Winners from each category will receive an award trophy and a \$1000 gift card from the award category sponsor.

Awards will be presented at Site Safe's Evening of Celebration held during November in Auckland.

This event is held alongside Site Safe's graduation ceremony for those receiving the New Zealand Certificate in Workplace Health and Safety Practice.

Judging for the awards will be undertaken by a panel made up of four individuals:

- an independent expert operating in the field of occupational health and safety in the construction industry,
- a construction industry representative,
- an employee representative, and
- a Site Safe representative.

Judges will be looking for those who demonstrate the following:

- Clearly demonstrated real benefits to health, safety and well-being,
- Displayed real innovation with respect to health, safety and well-being (thinking outside the square),
- Encouraged others to be involved and buy into health, safety and well-being,
- Ability for the initiative or idea to be adopted by others in the construction industry leading to continuous improvement in the sector, and
- Made health, safety and well-being positive.

Applications close on September 2, 2102. Entry forms can be downloaded at [sitesafe.org.nz/news--events/evening-of-celebration-2021/site-safe-health-and-safety-awards](https://sitesafe.org.nz/news--events/evening-of-celebration-2021/site-safe-health-and-safety-awards).

## Has your business demonstrated innovation and leadership in health, safety, and wellbeing?

Don't be an unsung hero of health and safety – **shout it from the rooftop!**

Applications for our 2021 Construction Health, Safety, and Wellbeing Awards are now open. With five categories available to enter, these awards are a great opportunity to get recognition for the positive steps you are taking towards a safer and healthier industry.



# One-sized safety systems don't fit all

By HammerTech head of marketing and strategy Nick Peters

In the past, technology companies wanting to serve the construction industry have made one big mistake — they developed solutions based on other industries such as manufacturing, and have expected construction — a very unique industry — to adapt.

It's the classic, "we built our solution the way we think construction should work", rather than building the solution the way construction companies do work.

Inflexible technology solutions are those that can't configure to your needs out in the field, and ask you to adapt your protocols to their software limitations.

Which doesn't make sense, right? If the solution was meant to support your operations, why develop a solution that doesn't have the flexibility to change or grow with you?

## Agility requires flexibility

When it comes to safety, your processes will change. That's the nature of company and system maturity, the result of changing regulations, and unfortunate incidents on job sites.

Learnings require adaptation — your past informs your future. And a system that does not allow for customisable changes will inherently limit your ability to create or edit important processes, and reduce your ability to implement those changes quickly or effectively.

Safety counts on being able to adjust in a timely fashion to keep teams away from danger and remain productive — because it becomes costly having to pause a job if an incident occurs while important changes to the system take place.

## Systems should wrap around you, not the other way around

Today's world is all about personalisation. Think about Netflix, Spotify, Stan. Consumer technology understands that without "you" there is no "them". So they make sure the technology conforms to your needs and desires.

We think construction technology, especially safety technology, should as well. This is



because your safety processes must meet certain regulations for the region, type of build etc. And who is better at defining those processes? Us? Or you?

## Out-of-the-box capabilities often put you in a box of limitations

Our system isn't built to box you in like many other software platforms. There is a significant difference between tailoring out-of-the-box applications to your needs, versus customising a completely configurable system designed to your process specifications.

We built our system with flexible modules and data fields that can be adjusted, modified, created or customised, based on what you need out in the field.

And those changes can happen fast because we teach you the system — which is super easy to learn — and your appointed administrator can go in and change the data fields quickly and easily.

(Read: You don't have to wait on anyone to do it for you or be forced to wait until your software vendors can schedule in and ship those technology updates.)

For example, we worked with a company that was trying to resolve incidents related to

temporary works on an active project.

No system out there had an adequate temporary works inspection process. So we helped them build it inside the inspections module.

The company created a quick, easy and effective solution without writing code. We simply showed them how to modify their data fields to capture what they needed and then add it to their list of inspections for teams to be able to access and use.

Plus, we integrate with other key software, such as Procore and Power BI, so your data can flow as you need it to.

You can pull or push data, visualise thousands of data points, and start making informed decisions across all of your projects and regions.

Because we know that what you don't know is limiting what you can do, and opening you up to more risk.

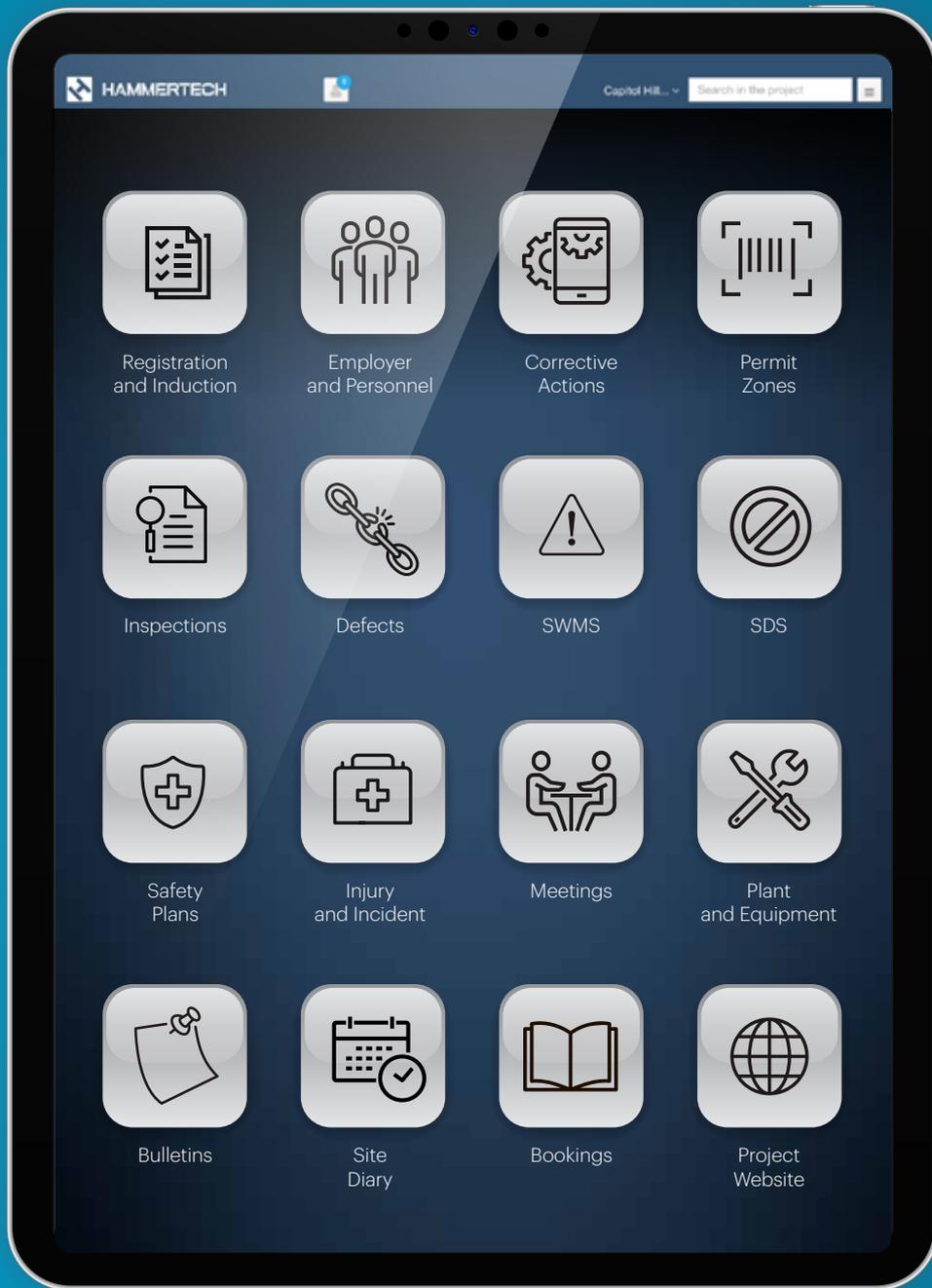
We know that system flexibility is important to construction. That's why our system was designed to be completely configurable.

The first principle of software is that it should be intuitive and easy to use. If your software system is putting you in a box, perhaps it's time to look elsewhere.



# Everything **safety** in one place

## Replace paper, Excel and individual apps



# HAMMERTECH

Safety | Quality | Operations

[www.HammerTech.com.au](http://www.HammerTech.com.au)

# Four of the best to keep water out!

**Waterproof sealants are vital in keeping interior and exterior areas dry and to keep water out, especially during New Zealand's wet winter weather.**

**Here we present four of the most popular brands available from merchants New Zealand-wide.**



## **Sika Blackseal Elastic**

**Sika BlackSeal Elastic** is a BRANZ-appraised polymer modified water-based bitumen emulsion.

### **Usage**

Sika BlackSeal Elastic has been formulated for use as a waterproof membrane behind retaining walls and as a damp-proof membrane for underground structures.

It can be applied to concrete, concrete block and brickwork, wood and metal.

### **Advantages**

- BRANZ Appraised Certificate No.770 [2012]
- Meets Clause B2 Durability, not less than 50 years, E2 External Moisture and F2 Hazardous Building Materials
- Appraised as an Alternative Solution in terms of the New Zealand Building Code
- Improved moisture vapour flow resistance of >300 MNs/g
- Fast cure, recoat in four hours
- Complies with AS/NZS 4020, tested for use in contact with drinking water (potable water)
- Can be mixed with sand and cement to create waterproof screeds and mortars
- Water-based, free from solvents
- Simple to apply by brush or roller
- Excellent adhesion to concrete and masonry
- Very low water permeability
- Can be applied to green concrete
- Resistant to ground salts

### **Application**

**Drying Time:** Touch dry in 1 to 2 hours. Recoat time is a minimum 4 hours, or longer in cold temperatures.

**Waiting time/overcoating:** Recoat time is a minimum 4 hours, or longer in cold temperatures.

**For more information:** [nzl.sika.com/en/construction/build/waterproofing/new-buildings/basement-membranes/sika-blackseal-elastic.html](http://nzl.sika.com/en/construction/build/waterproofing/new-buildings/basement-membranes/sika-blackseal-elastic.html)



## **Bostik Dampfix Gold**

**Bostik Dampfix Gold** is a one-component, highly elastic, class 3, polyurethane waterproofing membrane that contains no bitumen, and complies with AS/NZ 485.

### **About Dampfix Gold**

- Easy-to-apply waterproofing liquid membrane
- Tiling can begin the following day in most conditions
- High resistance to detergents and bleach
- Will not re-emulsify after curing
- Does not embrittle with age
- Can be applied to damp substrates — i.e. no free water
- All applications must be covered by tile or other protective wear system

### **Recommended uses**

- This is a 2-coat membrane that can be applied over primed porous and non-porous substrates, including concrete, rendered bricks, fibre cement, water resistant plasterboard, and structural plywood (Type A Stamped "PAA JAS-ANZ" to AS/NZS 2269-2004).
- It is ideal for showers, bathrooms, kitchens, laundries and toilet areas.
- It is not recommended as a membrane system in immersed areas, such as pools or spas.

**For more information:** [bostik.com/newzealand/en\\_NZ/catalog/product/construction/apac/new-zealand/product-bostik-asa-dampfix-gold](http://bostik.com/newzealand/en_NZ/catalog/product/construction/apac/new-zealand/product-bostik-asa-dampfix-gold)



## **Gorilla BlackJack Bituminous Liquid Waterproofer**

**Gorilla BlackJack** is a single component, ready-to-use water and damp-proofing solution that delivers across multiple surfaces and substrates.

### **About Gorilla BlackJack**

BlackJack has been a proven performer for many years among the wide range of Gorilla products that kiwi tradies have come to know and trust.

It is a non-toxic, high build, liquid waterproofing membrane based on polymer-modified bitumen emulsion.

This means it forms a seamless, highly elastic and durable film that adheres well to most common substrates that you will find on a job.

And it has the added bonus of being highly resistant to chlorides and sulphates commonly present in the soil.

Available in a size to suit your job, purchase Gorilla BlackJack at leading merchants nationwide.

### **Recommended uses**

Waterproofing of concrete and block foundations, retaining walls, basements and wet areas.

**For more information:** [www.soudal.co.nz/products/waterproofing/blackjack](http://www.soudal.co.nz/products/waterproofing/blackjack)



## **Selleys Storm Sealant**

**Selleys Storm Sealant** delivers a waterproof seal on any material\*, wet or dry, indoor or outdoor. It can even be applied in the rain to stop leaks in an instant.

### **Features**

- Can be applied to wet or dry material\*
- Good adhesion on any material\* even when applied in the rain
- Excellent UV and weather resistance
- Suitable for interior and exterior use
- Long lasting flexibility
- Easily paintable with two coats of water-based paints
- Low odour
- Made with Sil-X, an advanced polymer technology which delivers superior performance in demanding situations where conventional products fail, on any material\*, wet or dry.

\* Not for PE, PP, PTFE, permanent water immersion or plugging leaks subject to pressure. Forms an instant seal, but must not be disturbed until cured (48 hours approx).

**For more information:** [www.selley.co.nz/products/sealants/selleys-storm-sealant](http://www.selley.co.nz/products/sealants/selleys-storm-sealant)

# Adhesives — a backgrounder

Adhesives have been around for a long long time. Here we background the history and development of adhesives, and the many variations available in the 21st Century.

**A**dhesive, also known as glue, cement, mucilage or paste, is any non-metallic substance applied to one or both surfaces of two separate items that binds them together and resists their separation.

The use of adhesives offers certain advantages over other binding techniques such as sewing, mechanical fastenings or welding.

These include the ability to bind different materials together, the more efficient distribution of stress across a joint, the cost-effectiveness of an easily mechanised process, and greater flexibility in design.

Disadvantages of adhesive use include decreased stability at high temperatures, relative weakness in bonding large objects with a small bonding surface area, and greater difficulty in separating objects during testing.

Adhesives are typically organised by the method of adhesion followed by reactive or non-reactive, a term which refers to whether the adhesive chemically reacts in order to harden.

Alternatively, they can be organised either by their starting physical phase or whether their raw stock is of natural or synthetic origin.

Adhesives may be found naturally or produced synthetically. The earliest human use of adhesive-like substances was approximately 200,000 years ago, when Neanderthals produced tar from the dry distillation of birch bark for use in binding stone tools to wooden handles.

The first references to adhesives in literature appeared in approximately 2000 BC when the Greeks and Romans made great contributions to the development of adhesives.

In Europe, glue was not widely used until the period 1500-1700 AD. From then until the 1900s, increases in adhesive use and discovery were relatively gradual.

Only since the last century has the development of synthetic adhesives accelerated rapidly, and innovation in the field continues to the present day.

## History

The earliest known use of adhesives was discovered in central Italy when two stone flakes partially covered with birch-bark tar and



*Liquid animal glue.*

a third uncovered stone from the Middle Pleistocene era (circa 200,000 years ago) were found. This is thought to be the oldest discovered human use of tar-hafted stones.

The birch-bark-tar adhesive is a simple, one-component adhesive. A study from 2019 showed that birch tar production can be a very simple process — merely involving the burning of birch bark near smooth vertical surfaces in open air conditions.

Although sticky enough, plant-based adhesives are brittle and vulnerable to environmental conditions.

The first use of compound adhesives was discovered in Sibudu, South Africa. There, 70,000-year-old stone segments that were once inserted in axe hafts were discovered covered with an adhesive composed of plant gum and red ochre (natural iron oxide).

Adding ochre to plant gum produces a stronger product and protects the gum from disintegrating under wet conditions.

The ability to produce stronger adhesives allowed middle Stone Age humans to attach stone segments to sticks in greater variations, which led to the development of new tools.

More recent examples of adhesive use by prehistoric humans have been found at the burial sites of ancient tribes.

Archaeologists studying the sites found that approximately 6000 years ago the tribesmen had buried their dead together with food found in broken clay pots repaired with tree resins.

Another investigation by archaeologists uncovered the use of bituminous cements to fasten ivory eyeballs to statues in Babylonian temples dating to approximately 4000 BC.

The first references to adhesives in literature

appeared in approximately 2000 BC. Further historical records of adhesive use are found from the period spanning 1500-1000 BC.

Artefacts from this period include paintings depicting wood gluing operations and a casket made of wood and glue in King Tutankhamen's tomb.

Other ancient Egyptian artefacts employ animal glue for bonding or lamination. Such lamination of wood for bows and furniture is thought to have extended their life, and was accomplished using casein (milk protein)-based glues.

The ancient Egyptians also developed starch-based pastes for the bonding of papyrus to clothing, and a plaster of Paris-like material made of calcined gypsum.

From 1 - 500 AD the Greeks and Romans made great contributions to the development of adhesives.

Wood veneering and marquetry were developed, the production of animal and fish glues refined, and other materials utilised.

Egg-based pastes used to bond gold leaves incorporated various natural ingredients such as blood, bone, hide, milk, cheese, vegetables, and grains.

The Greeks began the use of slaked lime as mortar, while the Romans furthered mortar development by mixing lime with volcanic ash and sand.

This material, known as pozzolanic cement, was used in the construction of the Roman Colosseum and Pantheon.

The Romans were also the first people known to have used tar and beeswax as caulk and sealant between the wooden planks of their boats and ships.

In Europe, glue fell into disuse until the period 1500-1700 AD. At this time, world-renowned cabinet and furniture makers such as Thomas Chippendale and Duncan Phyfe began to use adhesives to hold their products together.

In 1690, the first commercial glue plant was established in The Netherlands. This plant produced glues from animal hides.

In 1750, the first British glue patent was issued for fish glue.

*Continued page 30*

# INNOVATION — THAT MAKES A — DIFFERENCE

THE WORLDS FIRST ISOCYANATE  
FREE, ENVIRONMENTALLY  
FRIENDLY EXPANDING FOAM.



OUR NEW FOAM  
REMOVER TO  
EASILY FIX CURED  
FOAM ISSUES.



The Gorilla foam family is available at leading merchants nationwide.

[soudal.co.nz](http://soudal.co.nz)

## Adhesives — a backgrounder

From page 28

The following decades of the next century witnessed the manufacture of casein glues in German and Swiss factories. In 1876, the first US patent was issued to the Ross brothers for the production of casein glue.

The first US postage stamps used starch-based adhesives when issued in 1847. The first US patent on dextrin (a starch derivative) adhesive was issued in 1867.

Natural rubber was first used as material for adhesives starting in 1830, which marked the starting point of the modern adhesive.

In 1862, a British patent was issued for the plating of metal with brass by electrodeposition to obtain a stronger bond to rubber.

The development of the automobile and the need for rubber shock mounts required stronger and more durable bonds of rubber and metal.

This spurred the development of cyclised rubber treated in strong acids.

By 1927, this process was used to produce solvent-based thermoplastic rubber cements for metal to rubber bonding.

Natural rubber-based sticky adhesives were first used on a backing by Henry Day in 1845. Later these kinds of adhesives were used in cloth-backed surgical and electric tapes.

By 1925, the pressure-sensitive tape industry was born. Today, sticky notes, Scotch Tape, and other tapes are examples of pressure-sensitive adhesives (PSA).

A key step in the development of synthetic plastics was the introduction of a thermoset plastic known as Bakelite phenolic in 1910.

Within two years, phenolic resin was applied to plywood as a coating varnish. In the early 1930s, phenolics gained importance as adhesive resins.

The 1920s, 1930s and 1940s witnessed great advances in the development and production of new plastics and resins due to the First and Second World Wars.

These advances greatly improved the development of adhesives by allowing the use of newly developed materials that exhibited a variety of properties.

With changing needs and ever-evolving technology, the development of new synthetic adhesives continues to the present. However,

due to their low cost, natural adhesives are still more commonly used.

### Economic importance

In the course of time and during their development, adhesives have gained a stable position in an increasing number of production processes.

There is hardly any product in our surroundings that does not contain at least one adhesive — be it the label on a beverage bottle, protective coatings on automobiles, or profiles on window frames.

Market researchers forecasted a turnover of almost \$US50 billion for the global adhesives market in 2019.

In particular, the economic development of emerging countries such as China, India, Russia and Brazil will cause a rising demand for adhesives in the future.

### Types

Adhesives are typically organised by the method of adhesion. These are then organised into reactive and non-reactive adhesives, which refers to whether the adhesive chemically reacts in order to harden.

Alternatively, they can be organised by whether the raw stock is of natural or synthetic origin, or by their starting physical phase.

### Drying

There are two types of adhesives that harden by drying — solvent-based adhesives and polymer dispersion adhesives, also known as emulsion adhesives.

Solvent-based adhesives are a mixture of ingredients (typically polymers) dissolved in a solvent.

White glue, contact adhesives and rubber cements are members of the drying adhesive family.

As the solvent evaporates, the adhesive hardens. Depending on the chemical composition of the adhesive, they will adhere to different materials to greater or lesser degrees.

Polymer dispersion adhesives are milky-white dispersions often based on polyvinyl acetate (PVAc).

They are used extensively in the woodworking and packaging industries. They are also used with fabrics and fabric-based components, and in engineered products such as loudspeaker cones.

### Pressure-sensitive

Pressure-sensitive adhesives (PSA) form a bond by the application of light pressure to marry the adhesive with the adherend. They are designed to have a balance between flow and resistance to flow.

The bond forms because the adhesive is soft enough to flow (ie, “wet”) to the adherend. The bond has strength because the adhesive is hard enough to resist flow when stress is applied to the bond.

Once the adhesive and the adherend are in



Casein glue preparation.

close proximity, molecular interactions become involved in the bond, contributing significantly to its ultimate strength.

PSAs are designed for either permanent or removable applications. Examples of permanent applications include safety labels for power equipment, foil tape for HVAC duct work, automotive interior trim assembly, and sound/vibration damping films.

Some high performance permanent PSAs exhibit high adhesion values and can support kilograms of weight per square centimetre of contact area, even at elevated temperatures.

Permanent PSAs may initially be removable (for example, to recover mislabelled goods) and build adhesion to a permanent bond after several hours or days.

Removable adhesives are designed to form a temporary bond, and ideally can be removed after months or years without leaving residue on the adherend.

Removable adhesives are used in applications such as surface protection films, masking tapes, bookmark and note papers, barcode labels, price marking labels, promotional graphics materials, and for skin contact (wound care dressings, EKG electrodes, and athletic tape).

Some removable adhesives are designed to repeatedly stick and unstick. They have low adhesion, and generally cannot support much weight. Pressure-sensitive adhesive is used in Post-it notes.

Pressure-sensitive adhesives are manufactured with either a liquid carrier or in 100% solid form. Articles are made from liquid PSAs by coating the adhesive and drying off the solvent or water carrier.

Continued page 32



**IMMEDIATE WATERPROOF SEAL ON ANY SURFACE\*, WET OR DRY. IT CAN EVEN BE APPLIED IN THE RAIN.**

**Si-X**  
ADVANCED POLYMER

- ✓ Can be applied to wet surfaces
- ✓ Good adhesion on any surface even when applied in the rain
- ✓ Excellent UV and weather resistance
- ✓ Available in black and clear

**SELLEYS®**

**IF IT'S SELLEYS IT WORKS™**

\*Note: Not suitable for PE, PP, PTFE, permanent water immersion or plugging leaks subject to pressure. Forms an instant seal, but must not be disturbed until cured (approximately 48 hours)

[www.selley.co.nz](http://www.selley.co.nz)

## Adhesives — a backgrounder

From page 30

They may be further heated to initiate a cross-linking reaction and increase molecular weight.

One hundred percent-solid PSAs may be low viscosity polymers that are coated and then reacted with radiation to increase molecular weight and form the adhesive, or they may be high viscosity materials that are heated to reduce viscosity enough to allow coating, and then cooled to their final form. Major raw material for PSAs are acrylate-based polymers.

### Contact

Contact adhesives are used in strong bonds with high shear-resistance like laminates, such as bonding Formica to a wooden counter, and in footwear, as in attaching outsoles to uppers.

Natural rubber and polychloroprene (neoprene) are commonly-used contact adhesives. Both of these elastomers undergo strain crystallisation.

Contact adhesives must be applied to both surfaces and allowed some time to dry before the two surfaces are pushed together. Some contact adhesives require as long as 24 hours to dry before the surfaces are to be held together.

Once the surfaces are pushed together, the bond forms very quickly. It is usually not necessary to apply pressure for a long time, so there is less need for clamps.

### Hot

Hot adhesives, also known as hot melt adhesives, are thermoplastics applied in molten form (in the 65°C to 180°C range) which solidify on cooling to form strong bonds between a wide range of materials.

Ethylene-vinyl acetate-based hot-melts are particularly popular for crafts because of their ease of use and the wide range of common materials they can join.

A glue gun is one method of applying hot adhesives. The glue gun melts the solid adhesive, then allows the liquid to pass through its barrel onto the material, where it solidifies.

Thermoplastic glue may have been invented around 1940 by Procter & Gamble as a solution to the problem that water-based adhesives, commonly used in packaging at that time, failed in humid climates, causing packages to open.

### Multi-part

Multi-component adhesives harden by mixing two or more components which chemically react. This reaction causes polymers to cross-link into acrylates, urethanes, and epoxies.

There are several commercial combinations of multi-component adhesives in use in industry. Some of these combinations are:

- Polyester resin-polyurethane resin
- Polyols-polyurethane resin
- Acrylic polymers-polyurethane resins.

The individual components of a multi-component adhesive are not adhesive by nature. The individual components react with each other after being mixed, and show full adhesion only on curing.

The multi-component resins can be either solvent-based or solvent-less. The solvents present in the adhesives are a medium for the polyester or the polyurethane resin. The solvent is dried during the curing process.

### Pre-mixed and frozen adhesives

Pre-mixed and frozen adhesives (PMFs) are adhesives that are mixed, de-aerated, packaged, and frozen.

As it is necessary for PMFs to remain frozen before use, once they are frozen at -80°C they are shipped with dry ice and are required to be stored at or below -40°C.

PMF adhesives eliminate mixing mistakes by the end user and reduce exposure of curing agents that can contain irritants or toxins. PMFs were introduced commercially in the 1960s, and are commonly used in aerospace and defence.

### One-part

One-part adhesives harden via a chemical reaction with an external energy source, such as radiation, heat and moisture.

Ultraviolet (UV) light curing adhesives, also known as light curing materials (LCM), have become popular within the manufacturing

sector due to their rapid curing time and strong bond strength.

Light curing adhesives can cure in as little as one second, and many formulations can bond dissimilar substrates (materials) and withstand harsh temperatures.

These qualities make UV-curing adhesives essential to the manufacturing of items in many industrial markets such as electronics, telecommunications, medical, aerospace, glass, and optical.

Unlike traditional adhesives, UV light-curing adhesives not only bond materials together, but they can also be used to seal and coat products. They are generally acrylic-based.

Heat curing adhesives consist of a pre-made mixture of two or more components. When heat is applied the components react and cross-link. This type of adhesive includes thermoset epoxies, urethanes and polyimides.

Moisture-curing adhesives cure when they react with moisture present on the substrate surface or in the air. This type of adhesive includes cyanoacrylates and urethanes.

### Natural

Natural adhesives are made from organic sources such as vegetable starch (dextrin), natural resins, or animals (eg, the milk protein casein and hide-based animal glues). These are often referred to as bioadhesives.

One example is a simple paste made by cooking flour in water. Starch-based adhesives are used in corrugated board and paper sack production, paper tube winding, and wallpaper adhesives. Casein glue is mainly used to adhere glass bottle labels.

Animal glues have traditionally been used in bookbinding, wood joining, and many other areas, but now are largely replaced by synthetic glues, except in specialist applications like the production and repair of stringed instruments.

Albumen made from the protein component of blood has been used in the plywood industry.

Masonite, a wood hardboard, was originally bonded using natural wood lignin, an organic polymer, though most modern particle boards such as MDF use synthetic thermosetting resins.

### Synthetic

Synthetic adhesives are based on elastomers, thermoplastics, emulsions and thermosets.

Examples of thermosetting adhesives are epoxy, polyurethane, cyanoacrylate and acrylic polymers.

The first commercially-produced synthetic adhesive was Karlston's Klister in the 1920s.



A glue gun, an example of a hot adhesive.

# WATERPROOFING CERTAINTY FOR BUILDERS

Sika® BlackSeal® Elastic



## BUILDER-FRIENDLY BRUSH-ON WATERPROOFING

- Below ground, residential applications
- Fast drying – turn a 2 day job into a 1 day job
- 50+ years durability
- Elastic not brittle – if the ground flexes, it will too
- BRANZ Appraised – so you know you can trust it

## LICENSED BUILDERS

1. WATCH THE **ON-LINE VIDEO** >> 2. COMPLETE THE SHORT **QUIZ** >> 3. GET YOUR **LBP-EXCLUSIVE SIKA CERTIFICATE**



SCAN FOR FULL INFO including PDS, Application  
Video and "How to Apply" booklet or visit [www.sika.co.nz](http://www.sika.co.nz)



BUILDING TRUST

# BRAUCE IT

with



the MDF wall bracing systems  
that are BRANZ Appraised

GoldenEdge Panelbrace are the MDF wall bracing systems that are BRANZ Appraised to resist earthquake, wind and impact loads on timber frame buildings designed and constructed in accordance with NZS 3604.



**BRANZ Appraised**  
Appraisal No.779 [2018]

Environmentally friendly GoldenEdge Panelbrace Wall Bracing Systems are easy and quick to instal with excellent strength quality, surface smoothness and stability.

Specify GoldenEdge Panelbrace Wall Bracing Systems with confidence.



For more information  
[www.nelsonpine.co.nz](http://www.nelsonpine.co.nz)

Nelson Pine Industries Ltd  
Nelson, New Zealand



# EVs: Not enough pros and too many cons for NZ businesses

Terry Sage of Trades Coaching New Zealand re-visits the electric vehicle debate, and says New Zealand businesses are just not ready for forced participation in a world dominated by EVs.

A short while ago — actually the last time I was told I had to subsidise electric vehicles (EVs) — I wrote an article hinting at my displeasure.

Guess what — I'm not happy again. Why do people not learn from their mistakes, and why do governments not listen to the majority of their people?

When I'm asked how much feedback I get from all my thousands of words on these pages, the answer is normally nought, zippo, nada and sweet bugger all.

However, the last time I wrote about my concern on this topic I received two scathing responses. Boy, did I feel like a real journalist rather than just a pen warrior. Bring it on fans, and let's see if we can get some support this time as well.

Now let's get one thing straight. I am a supporter of the electric revolution, really I am.

Well, perhaps not those shopping baskets named after tree parts that won't go over 76.3km/h, or that ugly Tesla that can't make up its mind if it's an SUV or a people mover — all that money for R&D and the designer comes up with that?

No, I'm a fan of that fancy Audi that flies across my television screen most nights, and that Tesla S that left me in its non-existent fumes on State Highway 1 the other day.

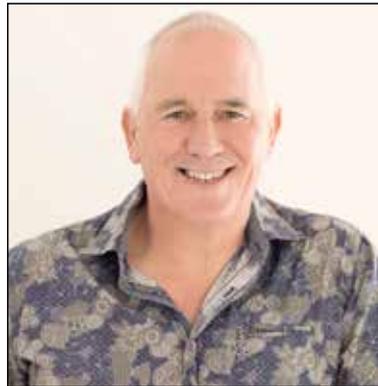
So it's not the cars themselves that have got my radiator boiling, but the fact that I'm being forced to either buy an EV or pay a penalty or a fine or another bloody tax, call it what you like.

Regardless of being brainwashed into believing the planet will self-destruct some time before we ever see the last episode of *Coro St* — not sure which one I'm looking forward to the most — we are just not ready for forced participation in a world dominated by EVs.

I have several clients that have looked very closely into going all out with an EV fleet.

Putting aside the purchase and running costs, they would simply not be able to function economically nor efficiently within their business.

The quality of the vehicles on offer are great for popping down the shops for



the milk, but not yet good enough to run a construction company, a courier gang, an agricultural contractor, a farmer or 95% of other businesses that rely on movement and travel.

There are huge amounts of propaganda out there portraying the glorious virtues of EV ownership and, of course, it's mostly all true.

But if you are serious about cutting the fuel card in half you really need to search out the not so glorious virtues.

Here's a few to think about:

- Did you know there is a medical condition called "Short range anxiety"? Will you get to the meeting before the lights go out?

- EV trip planning will soon become a course at most tertiary institutes, so you'll know whether or not you can travel further than the local 4 Square without missing a plug socket.

- If you live in an area that suffers frequent power cuts (as I do) you had better come up with a list of excuses for the boss as to why you've missed work again.

- You can't live south of the Bombay Hills as it gets too cold in the winter and the batteries really don't like it. You will get to the 4 Square alright, but getting back home again? That'll be a bit of a gamble.

- Why are 90% of electric cars so ugly.

- Apologies to the drivers out there who weigh in at over 53.4kg. The heavier you are the fewer kilometres your EV will travel between charges.

As I said, I want an EV, but not until they catch up with my lifestyle, they cost half what they do now, and I am not being forced into it by a blinkered government that wants to otherwise tax me.

Here's one last tip — buy your EV but don't sell your world-destroying internal combustion engine because you will need it to run a normally-functioning business.

## Become a fully-trained Business Coach

**There is an opportunity to be a part of Trades Coaching New Zealand Group and become a fully trained business coach.**

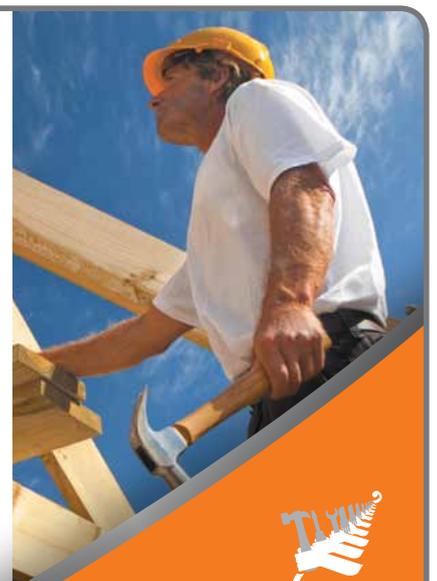
We are looking for builders and trades people who want a change in life. If you have owned and operated a successful building business, have a good insight in business practices, have exceptional communication skills and have a desire to take home a great income, we want to hear from you.

**If this sounds like you, then contact us today!**

**Phone:** 021 280 8679

**Email:** [terry@tcnz.net.nz](mailto:terry@tcnz.net.nz)

**[www.tradescoachingnewzealand.co.nz](http://www.tradescoachingnewzealand.co.nz)**



**Trades Coaching  
New Zealand**

THE BUSINESS SIDE OF CONSTRUCTION

# Hyperinflation, shortages, sending NZ building

EasyBuild director Mike Fox says he's heard anecdotes indicating that the number of product price increases builders are dealing with are up 156% on the same time last year.

**H**yperinflation of building materials combined with labour and material shortages — left unchecked, the industry faces meltdown.

Building inflation is currently out of control, with increases coming through on what seems a daily basis.

There are all manner of excuses given. Some are genuine but many are not logically explainable and seemingly opportunistic, obviously coat-tailing on the feeding frenzy.

I heard from one merchant recently that the number of product price increases they were dealing with was up 156% on the same time last year.

We are not dealing with normal CPI increases of 2% to 3% here, but hyper increases — in some cases of 10% to 15% compounding quarterly, especially when it comes to staple materials like timber.

Couple this with a materials shortage and it paints an unholy mess that is not sustainable. At the end of the day consumers need to be able to afford to pay for the finished product and, in my opinion, we have well surpassed any semblance of a sustainable affordability point for the average consumer.

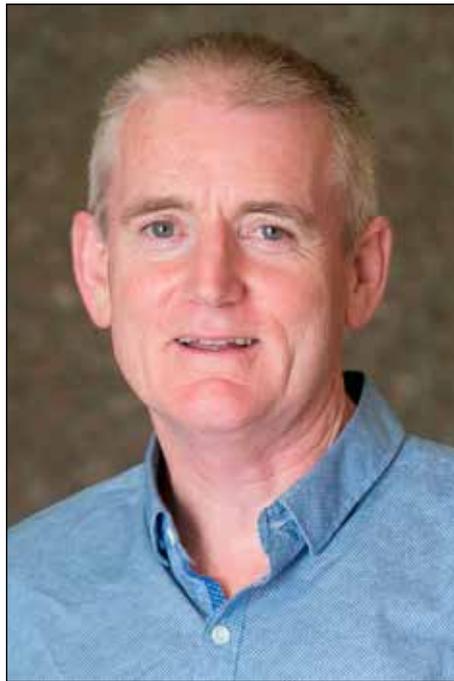
If you are like me, you are probably wondering what the hell is going on within an already stressed industry, and how long this will continue.

I have spoken to many senior industry players to try and get some sense and reason for what is happening — which to me, essentially, is an unprecedented spiral of cost and supply misery.

The housing industry is geared to comfortably build 25,000 homes per annum and we are now obviously beyond capacity at around 42,000 per annum.

Add to this the global Covid-19 impact where all indicators were that demand would drop 30%, and manufacturers scaled down accordingly. Given demand actually increased by approximately 20% post Covid-19, manufacturers are scrambling to meet orders with decreased capacity and, as a result, lead and delivery times have ballooned out by months.

James Hardie closed its Auckland



manufacturing plant in favour of supplying from its offshore plants and, coincidentally, their products have been in short supply in the New Zealand market since.

New Zealand is heavily reliant on imported material and components, having divested itself of onshore manufacturing capability throughout the 1970s and 80s.

## **Tiny consumer at the bottom of the world**

This means we are a tiny consumer at the bottom of the world in a global market where other countries' demands come first.

The Covid-19 vaccine supply is a stark example of global supply and our country's lack of influence.

We are bottom of the supply list despite our numpty politicians espousing that we were going to be first cab off the rank.

We are staring down the barrel of being an unvaccinated inconsequential country with closed borders in an economic backwater.

All the while, other countries will be vaccinated, with open borders and getting on with business as usual.

There have also been global logistic and

delivery problems, with massive cost increases in ship freighting, and difficulties even getting containers or space on a ship.

One by-product of seeing the global supply chain unravel will surely be more countries stepping up their own manufacturing again, so that they become less exposed to one or two countries providing what were cheaper goods to the world.

That model has certainly been exposed for the vulnerability which it leaves those who are reliant upon it with.

In New Zealand, you would be quite right to say what about timber?

We grow a surplus of our own right? But our local wharves are overflowing with logs heading offshore.

Meanwhile, you cannot purchase a stick of 90 x 45 decking or fence palings at your local merchant for love nor money. That cannot be for real?

It beggars belief, but this is the position the New Zealand timber industry has been allowed to put the country in.

They're a mercenary lot that have traditionally gouged the local market and know they can get more money offshore, so take a "pay up or tough luck" approach.

Mark my words, they will be coming cap in hand when the external markets falter. It certainly is not a reciprocal affair, with the supplying party trampling over the local market at the first sign of a better offer!

Perhaps it is time for New Zealand builders' love affair with timber framing to be checked for more affordable and reliable alternatives.

Apparently, the problem with our internal supply is not that timber mills cannot get logs, but that they are being forced to pay international prices for them which is, of course, rapidly passed on to the industry.

The other issue with timber's short supply is the mills' current capacity to keep up with the growing housing market.

There have been so many mill closures over the years that those still operating simply cannot cope with demand.

Some of those closed smaller mills specialised in outdoor products such as decking and

# industry into potential meltdown

fencing, so there is now a shortage of producers of these products.

It would seem that the real problem of timber supply kicked in shortly after Carter Holt announced it would only supply its own stores and PlaceMakers with timber, leaving the other merchants who had relied upon this supply chain to go scrambling for alternative suppliers.

This has resulted in a degree of panic buying not unlike the clearing of the shelves at supermarkets during Covid-19 lockdowns.

Time will only tell if an equilibrium will be hit when the stockpiles are full, but I cannot see the situation changing rapidly this year.

## Builders risk being forced out of business

So what impact is this hyperinflation, along with labour and materials shortages, having?

Builders who have entered fixed price contracts with liquidated damages and milestone payments face the risk of being forced out of business.

Expect to see some builders fail later this year or early next as a result of being caught with spiralling costs, slower than normal cashflow and no way of recovering losses.

Builders should not under any circumstances agree to be locked into fixed price or liquidated damages on contracts in these market conditions.

Banks are not going to like it that contracts might have to be more flexible than they would have traditionally been. However, they need to play their part in this crisis as well by perhaps including some contingency cover.

Consumers will be getting their projects often later and with an element of inflation during the build.

That is the reality of the market conditions, and the builder can only but do their best to forward order and procure at the best rates available.

Consumers will also need to be flexible about product substitutions, as some products just will not be available.

Councils are also going to have to be helpful around accepting that products may change during a build.

They can assist by not being so straight-jacketed on amendments when there is no meaningful difference with a product substitution.

## Labour shortages

These are extraordinary times, and we all need to be understanding of each other's challenges if we are going to make this work.

Labour shortages are also compounding delays, and with the borders shut and full employment of those that want to work, we have a massive productivity and delivery problem.

The construction, farming, horticulture and hospitality industries are crying out for good workers, but this government's approach is to stop immigration of much-needed skilled immigrants into New Zealand.

This is in the naive hope that labour shortages will increase wages locally, thereby enticing the unemployable off the sofa and out into the workplace.

It is an ideological myth that needs debunking now. If you want the housing crisis solved, crops harvested, and restaurants open to their capacity, then allow the industries to import the workers required.

This is a time for cool heads and caution as one navigates the minefield that has been created. It is also a time to check one's motives for price increases and act responsibly and ethically.

A quick buck today with an opportunistic price increase might be the straw that kills the golden goose.

One thing I have learnt about builders is that they have long memories when it comes to being worked over financially.

So if you are one of the price gougers, do not expect much sympathy when the market turns, as it surely will.

**• This article contains the author's opinion only, and is not necessarily the opinion of the Registered Master Builders Association, its chief executive or staff.**

Looking for a no-fuss solution to provide top quality housing and boost your sales and turnover with lower risk?



NZ's fast, affordable new home solution

## Join EasyBuild as your region's Preferred Builder.

You'll enjoy our costed and quantified designs, all with MultiProof approval, established systems, reduced admin, advice, sales, marketing and operational support.



"It has contributed significantly to my overall turnover. With the systems that EasyBuild provides, and the faster on-site construction time, we have been able to deliver more with our same level of staffing and resources." **Pete Roden, EasyBuild Bay of Plenty**

### Find out more.

Call us on 0800 232 792  
or visit: [easybuild.co.nz/join-our-team](https://easybuild.co.nz/join-our-team).





# What's with all this HR stuff?

Tradie HR director Leigh Olsen explains exactly what HR is really all about.

I am often asked, so what do you HR lot actually do? Don't you just hire and fire people?

Sometimes these questions come with a roll of the eyes, as the person asking the question has memories of when HR was known as Personnel — the ones in charge of creating compliance among the staff, and making sure staff kept to the rules, and clocked into work on time.

Today HR provides much more than just compliance, and hiring and firing. We are a key part of any business, helping them to find the right people, keeping them and growing them.

We are a strategic business partner helping to reduce a lot of headaches for business owners, adding some serious value to your bottom line.

Below are some of the key aspects we often help business owners with to make sure they can help their people and their business, and keep headaches to a minimum!

## Hiring your people

Getting your people stuff right starts well before an employee walks through the door on their first day. To get the scene set in the right way, always make sure you've got the following up and running for any new employee:

- An employment agreement: Always have this ready, checking that it is current, relevant and legally compliant. Get the agreement to your new starter before they start, so they have time to review it, seek guidance and get it back to you a few days before they commence work.
- Job description: Every employee should also have a detailed job description and to be aware of what HR policies your company has.

This is a great way for you to stop and check that you know exactly what you want them to be focusing on when they enter the business. This kind of direction can save a lot of hassle in the long term for everyone involved.

- Inductions: This is a key step often missed or simplified to just pairing up the new starter with a buddy for the first day, and then the new starter is left to just "figure it out".

Taking the time to work out a decent induction plan, with reviews set for weeks one, three and five, can help to keep the employee on track and receiving the support they need at this crucial time. It might sound like a lot of work, but it reduces a lot of tidying up later on.

## Growing your people

Most team leaders, managers or business

owners want to have a high performing team. They might have a few key staff who regularly go above and beyond, taking initiative and going the extra mile.

So how do you get the rest of your team to be like your top workers.

Again, this is where HR can offer some great guidance to bring everyone up to the same level of performance and get your business continuously humming. Here's what you can do:

- One-to-one meetings: Take the time to have a one-to-one meeting with each employee and talk about what they want to do. Book this in for a regular occurrence, and you'll be amazed at what you discover.

One key tip with these types of meetings — you'll only find out what they really want if you focus on listening more than talking.

Speaking recently with a client, Jacob, he told me in no uncertain terms "I know what they want!" He didn't — he knew what he wanted for them.

When I encouraged him to go back and just focus on listening, he discovered a whole range of things he didn't know about his people.

- Development plans: To make sure you collect your team's thoughts and insights, create individual development plans that include each employee's wants and goals while reflecting the needs of your business.

We did this for Jacob, creating a simple development plan for each of his staff, keeping it simple while focusing on a plan that built morale, motivation and increased productivity. The result — a happy client and an engaged team!

## Skipping the 'HR' stuff

When things get really busy, sometimes it's easy to overlook all of this "people stuff" — the "HR" stuff.

We might start off with a hiss and a roar with getting the contracts right, having a great induction, and setting development plans, but then it gets near to Christmas, and we start forgetting or cancelling the HR stuff.

If you're lucky, your people will forgive you but, if not, often it's just another piece in the puzzle for them, and chances are they will walk or start sabotaging their work environment in their own unique way.

I have a client who, due to him being so busy, would often forget development meetings he had set with each of his team, and they had to keep reminding him.

After a while, this wore his team down and it started impacting their attitude, behaviours and, yes, productivity started to drop away.

I have had to mediate in many situations, and employees have told me that communication and being let down was a key factor in why they no longer feel engaged or inspired to go the extra mile, and why they decided to just leave. Always keep your people promises. They matter.

## Get Your HR stuff right

Often, to get your HR stuff right, it's about getting a decent plan in place, with some easy-to-use tools, such as clear and simple development plans to use with your people.

Or it can be having some time to practice how to listen to your people right, or make sure that a new starter has a clear path forward into your company.

At Tradie HR we have not only the key tools to help you get your people stuff right, but we're also a strategic partner that walks alongside you in your journey to grow your people.

**Note: This article is not intended to be a replacement for legal advice.**



**TRADIE HR**  
GETTING PEOPLE STUFF RIGHT

Tradie HR is a unique service, providing Human Resource support tailored to Kiwi trades businesses of all shapes and sizes. Because whether you are starting out or gearing up to take your trades business to the next level, getting that people stuff right is crucial to your success.

**HR Essentials**  
People Strategy  
Problem Solving

+64 027 530 9986  
leigh@tradiehr.co.nz  
www.tradiehr.co.nz

We look forward to talking with you.  
Call Leigh Olsen for a free consultation.

# Building Consents Information

For All Authorisations, May 2021

Dwellings	\$1,849,984,000
Domestic Outbuildings	\$21,197,000
<b>Total Residential</b>	<b>\$1,871,180,000</b>
Non-residential	\$780,386,000
<b>Total All Buildings</b>	<b>\$2,651,566,000</b>
Non-building Construction	\$44,202,000
<b>Total Authorisations</b>	<b>\$2,695,768,000</b>

## Number of new dwellings consented

	May 2021	Apr 2021	May 2020		May 2021	Apr 2021	May 2020
Far North District	43	30	23	Horowhenua District	23	27	46
Whangarei District	55	72	49	Kapiti Coast District	24	35	21
Kaipara District	24	25	18	Porirua City	23	34	30
Rodney District	116	112	90	Upper Hutt City	27	13	27
North Shore/Albany Wards	317	528	196	Lower Hutt City	160	101	40
Waitakere Ward	199	185	154	Wellington City	43	72	167
Auckland Wards	390	314	517	Masterton District	18	15	22
Manukau/Howick Wards	369	209	183	Carterton District	7	7	9
Manurewa-Papakura Ward	174	179	142	South Wairarapa District	13	10	9
Franklin Ward	143	96	85	Tasman District	55	42	33
Thames-Coromandel District	25	30	24	Nelson City	23	34	7
Hauraki District	27	11	11	Marlborough District	16	19	18
Waikato District	111	93	73	Kaikoura District	4	2	6
Matamata-Piako District	46	42	20	Buller District	12	4	3
Hamilton City	192	82	137	Grey District	9	3	4
Waipa District	66	41	39	Westland District	3	3	1
Otorohanga District	4	4	2	Hurumui District	10	9	11
South Waikato District	7	7	6	Waimakariri District	87	84	51
Waitomo District	10	0	2	Christchurch City	339	344	382
Taupo District	35	34	26	Selwyn District	188	159	172
Western Bay of Plenty District	57	59	40	Ashburton District	31	17	16
Tauranga City	99	181	121	Timaru District	22	15	13
Rotorua District	26	36	12	Mackenzie District	12	11	10
Whakatane District	10	6	6	Waimate District	2	3	2
Kawerau District	0	0	0	Chatham Islands Territory	0	0	3
Opotiki District	0	2	1	Waitaki District	9	20	14
Gisborne District	18	19	11	Central Otago District	29	32	24
Wairoa District	0	0	2	Queenstown-Lakes District	118	123	104
Hastings District	43	31	31	Dunedin City	34	44	40
Napier City	22	23	40	Clutha District	7	6	7
Central Hawke's Bay District	7	5	13	Southland District	10	12	8
New Plymouth District	55	98	62	Gore District	2	2	1
Stratford District	6	5	5	Invercargill City	20	16	12
South Taranaki District	7	10	6	Area Outside TA	0	0	0
Ruapehu District	3	7	3				
Whanganui District	13	14	21	<b>Total</b>	<b>4180</b>	<b>3994</b>	<b>3562</b>
Rangitikei District	3	11	6				
Manawatu District	19	16	17				
Palmerston North City	54	47	51				
Taranaki District	5	12	4				

- Based on 2006 census areas
- Each dwelling unit in a housing project is counted separately
- Figures in these tables may differ from published statistics

Source: Statistics New Zealand

# Win with Building Today!



Visit

[www.buildingtoday.co.nz](http://www.buildingtoday.co.nz), hit the Competitions link and correctly answer the Building Today Trivia Question to go into the draw to win a pack of 5 Lenox MetalMax diamond abrasive blades! Congratulations go to Norman James of Auckland, who won last month's Evacut Drill Set from Sutton Tools worth \$155.

# Advertiser's Index

Carters	40	RMBA	9
EasyBuild	37	Rockcote Systems	19
HammerTech	25	Selleys	31
HiKOKI	15	Sika	33
JNL	13	Site Safe	23
MBIE	17	Soudal	29
Mitre 10	11	Trades Coaching NZ	35
Nelson Pine Industries	34	Tradie HR	38
NewBuild	21	Winstone Wallboards	2

# Skills Maintenance Points

**One hour of learning = 1 point**

Read *Building Today* magazine and earn Skills Maintenance Points

For more information go to <https://www.lbp.govt.nz/for-lbps/skills-maintenance>

# CARTERS

Your **Building** Partner

## NEW TRADE APP ORDER ON THE GO

CARTERS trade app makes doing business on the go convenient so you can get your ordering sorted, onsite or off.



Search products at your trade price



Scan barcodes & add to your cart



View & order from your estimates



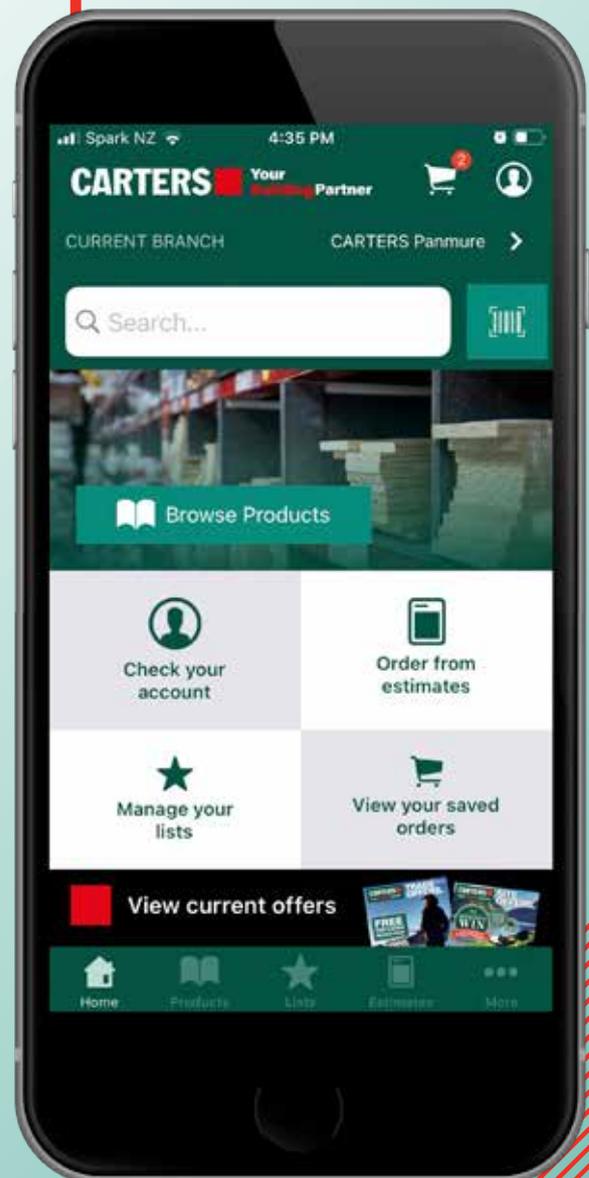
Pick from delivery or collection



Save frequently used products



Manage your team's access



Download on the  
App Store

GET IT ON  
Google Play



**Download Today!**

You'll need a CARTERS Trade Account & Trade Portal access to sign in on the App. Find out more at:

[www.carters.co.nz/tradeapp](http://www.carters.co.nz/tradeapp)

## BE IN TO WIN 1 OF 2 BRAND NEW PHONES\*

when you sign in before 31 July 2021\*

\*TERMS & CONDITIONS APPLY. SEE CARTERS.CO.NZ FOR FULL DETAILS.

Contact us today

0800 CARTERS

[www.carters.co.nz](http://www.carters.co.nz)