

ISSUE 60

UNDER CONSTRUCTION

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Moving forward



Preparing for the worst scenario while planning for the best outcome

First and foremost, I want to extend my sympathy to all those affected by the earthquakes and extreme weather events towards the end of last year. While some managed to carry on with business as usual fairly quickly, others have been dealing with the aftermath for months.

As a New Zealand operated and managed business, PlaceMakers is dedicated to, and passionate about, the success of Kiwis and particularly our customers. It's why we are committed to providing the tools you need to maintain your LBP status and stay up to speed with changes in the industry.

It's also why, in times like this, we do our best to include useful post-earthquake information in *Under Construction*. In this issue, we highlight the legislation changes that happened as a result of the Christchurch earthquakes, potential issues with insurance and more general emergency preparation tips.

As highlighted by recent events, it's always possible that something beyond your control will disrupt your strategy. How you are prepared and able to react to disruptions is the measure of your business' resilience.

Having said that, if residential building activity and consent numbers are any indication, the industry continues to move forward. With 2017 under way and the new financial year just around the corner, now is the time when many business owners will be setting new targets for the next 12 months. When doing so, it's important to think carefully about what needs to be done to achieve these.

Increased building activity – although viewed as positive by most in the industry – can cause financial issues for some businesses, especially approaching the end of the financial year. Check out page 16 for advice about how to take it all in your stride.

As always, we'll do our best to help keep your business moving in the right direction – by hosting another round of skills maintenance seminars, helping you earn skills maintenance points through *Under Construction* and featuring mandatory reading articles from MBIE's Codewords newsletter.

All the best,

Gary Woodhouse

General Manager Operations & Marketing

How you are prepared and able to react to disruptions is the measure of your business' resilience



6



16



18



22

NEWS

- 2 LBP** The standard for insulation installation has undergone a major revision – it's free so download to stay up to speed!
- 4 OFFCUTS** Golfers putt more into Blue September kitty; Why PlaceMakers Whakatane drive-thru became a catwalk; Unlikely winner in Marua Road's Movember contest
- 12 INDUSTRY NEWS** BCITO looks to attract more females to the construction industry; Annual home consent total second highest in over 40 years; MBIE's two new practice advisories provide guidance on non-structural and secondary structural building elements

FEATURES

- 3 BUILDERS' BUSINESS** Business practices of your fellow builders
- 6 BUILDING & HOUSING GROUP** A recent LBP Board decision clarifies LBP responsibilities
- 8 BRANZ** Tips and tricks to get your concrete slabs right
- 16 SUCCESSFUL BUILDER** How to stop your business from imploding during a boom
- 20 BUILTIN** Insurance lessons learnt in Canterbury revisited following Kaikoura quake
- 18 WORKSAFE NZ** Take your scaffolding safety to new heights!
- 22 SITE SAFE** Why and how you should prepare for the worst

OTHER STUFF

- 25 SKILLS MAINTENANCE** Record your LBP skills maintenance – you've earned it!

ISSUE 60 > FEBRUARY 2017

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New standard for installing insulation

Under Construction now includes all compulsory **Codewords** articles to help LBP's stay up to speed and earn their required points. This month's article is required for those who hold a Carpentry, Foundations, Site or Design licence

Under the new skills maintenance scheme, reading **Codewords** articles relevant to your licence and answering the corresponding questions is a mandatory part of skills maintenance (for those who have renewed their licence since 2 November 2015).

This month, *Under Construction* is featuring **Codewords'** article about the new Standard for installing insulation.

Once you've read the article, go to the LBP website (under **Codewords** Issue 75) to answer the associated questions.

INSTALLING INSULATION IN RESIDENTIAL BUILDINGS

The New Zealand Standard for installing insulation in residential buildings has gone through a major revision. The new Standard is **NZS 4246:2016 Energy efficiency - Installing bulk thermal insulation in residential buildings**. This replaces **NZS 4246:2006 Energy efficiency - Installing insulation in residential buildings**.

The Standard provides guidance for the correct installation of insulation products by any installer, including DIY installers, in order to achieve high-quality and safe insulation installations in buildings.

HOW HAS THE STANDARD CHANGED?

The Standard has been updated, extended and now provides additional guidance on installing insulation:

- In steel-framed installations.
- Under concrete slabs on the ground.
- Around downlights, particularly where there have been significant technology advances.

Additional diagrams, photos and figures

have been included to provide easy-to-understand, step-by-step guidelines for installing insulation in new homes, and for retrofitting insulation in existing residential buildings.

Products and applications covered include:

- Loose-fill product (such as wool, mineral wool or cellulose fibre) for insulating walls and ceilings.
- Segment and blanket products (such as polyester, wool or mineral wool) for insulating in walls, ceilings and floors.
- Rigid sheet insulation products (such as expanded or extruded polystyrene (eps or xps) and polyisocyanurate (pir) for insulating walls, ceilings and floors).
- Semi-rigid insulation (such as wool, mineral wool, polyester) for insulating walls, ceilings and floors.
- Pipe insulation (such as pre-formed tubular foam).
- Hot water cylinder wraps (such as wool, mineral wool or polyester blanket with cloth or foil-backing).
- On-ground vapour barriers.

BAN ON FOIL INSULATION (RETROFIT OR REPLACEMENT)

Foil insulation continues to be excluded from the scope of the revised Standard.

A ban on retrofitting or replacing foil insulation in residential properties came into force on 1 July 2016 to reduce safety risks associated with installing this product.

Read more on the ban on installing or repairing foil insulation in residential

buildings on the Ministry of Business, Innovation and Employment's (MBIE) Building Services website.

MEETING EVERYONE'S NEEDS

Installing insulation correctly means it performs effectively and doesn't compromise the durability of your building, or put the health and safety of installers and occupants at serious risk.

In addition, the Standard is cited in the Residential Tenancies (Smoke Alarms and Insulation) Regulations 2016.

If you have rental properties it's important you read and comply with the Standard when installing insulation in those properties.

WHERE TO FIND THE REVISED STANDARD

The revision of the Standard was commissioned by the Energy Efficiency and Conservation Authority and is publicly available on MBIE's Tenancy Services website. To download the Standard, go to the homepage, select 'Maintenance & inspections', then 'Insulation'. At the bottom of the page there is a link to a PDF of the Standard.



Make sure you use the revised standard for installing insulation



Building in Aotearoa

Builders' Business is a column by builders for builders. Its objective is to provide a forum, particularly for small business operators, in which to share knowledge, experience, tips and ideas

Q: What are some of the unique challenges of building in New Zealand?

Firm: JMK Design and Build Ltd

Principal: Isaac Kake

Location: Northland

Staff: 7

I think there are three big challenges for us. The first is working in remote locations, because it can delay the delivery of materials if a driver doesn't know where they're going - GPS can only get you so far!

Site access is also a challenge and it can be really difficult due to long, steep driveways. Working in rural communities, people doing their own earthworks can also be a problem, as they don't design access for heavy trucks.

In that same vein, owners doing parts of a job by themselves to save money can be another issue. I had one job where a farmer laid out the site using his farm machinery and it wasn't level!

The third challenge is Northland's climate - it's four seasons in one day here.

It means you need to have a contingency plan in case of rain to make the most of your time and labour, or sometimes you just have to carry on regardless.

Once you've been building in an area for long enough, you get to understand the weather patterns and it just comes down to smart planning.

Firm: Court Construction

Principal: Cameron Court

Location: North Shore

Staff: 14

We work Auckland-wide and, like much of New Zealand, the topography can be a real challenge.

It is very rare for us to be presented with a flat site. This means that most projects include excavating and retaining, along with step footings.

This can open you up to some risk, with clay being exposed or slippage during adverse weather.

After working in other countries, where entire suburbs are created in one design, another thing that I guess is quite unique here is that houses are usually individually designed.

This means that each project presents new challenges and curveballs, which keeps things interesting.

I also think it creates builders with a much more extensive skillset.

Firm: Stonewood Homes Nelson

Principal: Brent Stewart

Location: Nelson

Staff: 6

Delays surrounding consents and compliance are a big struggle for everyone in our region and throughout the country. It's a challenge that causes flow-on effects to other parts of our work.

Although compliance is necessary, builds follow a process - any delays directly affect workflow at every stage, from development to build through to final compliance.

The inconsistency of inspector standards is one of our biggest compliance challenges, which can make our crucial planning difficult.

Not only do we inherit increased staff and contractor costs, but the homeowners waste money continuing to rent as they can't get into their new homes. Delays also affect the margins of a fixed-price contract, as material costs will increase over time.

Our relationships with clients and sub-contractors are also most at risk when timelines are blown out and that's not a sustainable way to run a business. I'd like to see central government intervene and work directly with local councils to ensure residential building inspectors are more consistent with their decision-making.

Now have your say...

HAVE YOU HAD TO MAKE ANY CHANGES TO YOUR BUSINESS TO ACCOMMODATE THE 'BUILDING BOOM'? IF SO, WHAT CHANGES HAVE YOU MADE?

ANSWER THIS QUESTION TO ENTER OUR QUARTERLY PRIZE DRAW

Email your answer with your full name, contact phone number, company name, number of full-time staff and the city or town in which you're based to editor@pmundersconstruction.co.nz. All responses must be submitted by **25 February 2017**. The answers to this question will be published in *Under Construction* April 2017.

WIN!

Going green for Blue September!



Big Kevin 'Neeps' Nepia, congratulating former Pakuranga Country Club Captain Glenn Jillings on his winning auction bid of \$1,200 for the Merida bike



Northern Regional Manager Shane Watkin (second from right), with his prize-winning team



Prostate Cancer CEO Graeme Woodside spoke about the importance of getting checked

PlaceMakers Mt Wellington's annual charity golf tournament and auction on 15 November proved to be a smash hit, as those in attendance helped to raise more than \$7,000 for the Prostate Cancer Foundation

Mt Wellington Retail Operations Manager Rusty Brooke says there were a number of no-shows, despite some ominous early morning showers, the day became fine and everyone got into the swing of things.

"We were expecting around 116 players, but the morning rain scared a few off so we had around 68 turn up. Everyone ended up having a hell of a day though," he says. "The team at the Pakuranga Country Club were fantastic and took really good care of us. They provided a marvelous buffet and the course was in fantastic condition.

"One of the club professionals, Sam Thomas, had 15 umbrellas with his old logo on them that he kindly donated to us, which we sold for \$10 each. The irony was those who bought them didn't

even need to open them!"

The main prizes at the auction were a Merida bike and 150-year-old anniversary cask of Jack Daniels that sold for \$1,200 and \$700 respectively. In addition to the auction, Rusty says they ran a raffle that saw everybody in attendance take away a prize.

"We got great support from our suppliers, so we had lots of tools and other useful products to give away. One of them actually ended up winning a big gift hamper with multiple prizes in it and felt it was a bit off that he keep them all, so he donated them back and we had six more draws as a result!"

At the prize giving, Prostate Cancer Foundation CEO Graeme Woodside gave a speech highlighting the importance of getting checked, as early

detection is the best way to defend against a disease that claims 600 lives annually.

While the event was run for a good cause, there was fierce competition on the green. Rusty, along with his teammates Richard Huitema, Mike Stephens and Ian Crosby ended up winning by a few shots, thanks to strong team play.

"It was an Ambrose-style tournament, so everyone had to contribute. We shot 58 with a handicap of five and made 12 birdies and an eagle, which is pretty good!"

Rusty, who was part of Mt Wellington's 'Hard as Nails' trophy winning team, displayed a soft touch on the day, making an 80-foot putt on a two-tiered green for birdie.



PlaceMakers Whakatane model citizens!



The fashion show featured garments provided by local retailer Him.Her/Whitegold, which stocks a range of designer clothing for both adults and children



PlaceMakers Whakatane Branch Operator Doug Manu presents a cheque for \$4,520 to representatives from the Salvation Army

While a building supplies store might seem like an odd place to host a fashion show, PlaceMakers Whakatane pulled it off in style and raised more than \$4,000 for the Salvation Army

Whakatane operations manager Amanda Rouse organised the show and says it was a fantastic night.

"We wanted to promote our new bathroom and kitchen sections to women and also give back to the community. Tickets were \$20 plus a canned goods donation for the Salvation Army's foodbank on entry," she says. "They always struggle at this time of year and

were really pleased to have our support."

PlaceMakers staff converted the drive-thru into a runway, with local fashion label Him.Her/Whitegold organising the models and garments.

The night also featured an exhibition with stalls occupied by a number of beauty and health exhibitors. "We sold all 120 tickets and everyone said they had an

awesome time, so we're thinking it's something we might have to do again," says Amanda.

"We also had an auction where the ladies got to bid on our trade customers' time for any jobs they might need doing.

"That alone raised \$2,500 and, in total, we were able to give the Salvation Army \$4,520 along with a big trolley of canned goods!"

A multitude of mo's on Marua Road

PlaceMakers head office raised more than \$210 for Men's Health during Movember, with an unlikely winner crowned by an enthusiastic voting base

Seven members of PlaceMakers Marua Road head office staff put their facial grooming on hold for Movember to raise money for the charity Men's Health.

Kevin Riley, Jeremy Carter, Peter Barrett, Ryan Belworthy, Martin Brannigan, Jack Skelton and Craig Studholme sported an array of moustaches, including handlebars, goatees and, in eventual winner Jack's case, a top



Marua Road's Movember moneyraisers proudly display their efforts at the end of the month (l-r Martin Brannigan, Ryan Belworthy, Jeremy Carter, Peter Barrett, Kevin Riley, Jack Skelton)

lip that looked like it could have been cleaned with a warm facecloth.

Between them, the group raised \$210 and are looking forward to next

Movember when they plan to go bigger and better.

An overwhelming female vote had declared Jack the winner.



Board decision on design quality

Ministry of Business, Innovation & Employment



Reading design plans should never be a guessing game – a designer's plans should be able to stand by themselves, should not require clarification and should document how the building work is to be undertaken well enough so that code compliance is achieved

Complaint about Carpentry LBP leads to Designer LBP being disciplined

The Building Practitioners Board (the Board) recently made a significant disciplinary decision regarding negligence, incompetence and disrepute caused by Design Licensed Building Practitioners (LBPs). The decision related to design work carried out and issues experienced throughout the build as a result of the design work.

The matter came to light through an earlier complaint about a carpenter, which prompted the Board to initiate an inquiry into the designer. The Board upheld the disciplinary sanctions against the designer and his licence was cancelled as a result. He was also ordered to pay costs.

While this decision is particularly relevant for Design LBPs, it also affects other licence class holders who are guided by Design LBPs on a regular basis. Many Carpentry LBPs will be relieved to know that, while they should discuss any issues with the designer, they won't be blamed for following a faulty design.

The Board has directed the Registrar to

publish an article in *Codewords* that summarises the decision.

NEGLIGENT OR INCOMPETENT DESIGN WORK

The design included incomplete drawings and notes done by hand with limited site-specific detailing. While drawings and notes done by hand are acceptable, they must be legible and complete. In this case, the notes on the drawings were not specific enough and the drawings were effectively incomplete. While the builder should discuss any issues with the designer, the Board noted:

"...a designer's plans should be able to stand by themselves, should not require clarification, and should document how the building work is to be undertaken so that code compliance is achieved. The Board has also consistently conveyed in previous decisions the message that it is not appropriate for Licensed Building Practitioner designers to use the building consent process as a peer review or quality assurance mechanism and/or rely on the building consent authority to pick up any anomalies in the design documents."

UNDERSTANDING THE SITE CONDITIONS

Designers need to understand and research the site they are working on. Design competencies require Design LBPs to carry out or acquire site investigations and research matters relating to ground conditions, topography and existing services. In this case, the designer did not check the district plan or obtain a project information memorandum, so they were unaware that the site in question was subject to a natural hazard.

WORKING OUTSIDE OF YOUR COMPETENCE

Two of the other major aspects of the complaint relate to amending Acceptable Solution details and the performance of a penetrometer test used to test ground conditions.

a) Amending Acceptable Solution details

Acceptable Solutions and cited Standards are construction pathways that have been established to comply with the Building Code. If you design and/or build to an Acceptable

Solution, there should be no problems. Acceptable Solutions are developed using a variety of specialist skills that may be outside the realm of a designer. These may include specialist engineers, researchers or scientists.

In this case, the designer amended details taken from an Acceptable Solution, which essentially 'watered down' the requirements. As these Acceptable Solutions were created using engineering calculations, the Board considers amending Acceptable Solutions to be outside the competence of a Design LBP.

b) Performing a penetrometer test

According to a special adviser to the Board, a penetrometer test does not need to be carried out by an engineer – there are actually no limitations on who can perform this test.

However, whoever performs a penetrometer test must be competent in all aspects of the test or engage an engineer to assist and/or supervise the person in carrying it out.

In this case, the designer carried out the test but failed to penetrate deep enough or allow for lateral movement in his calculations. He also determined that good ground had been established from his test when, due to the deficiencies in the test, good ground could not be confirmed.

The land was also subject to a natural hazard (slippage and inundation)

which further complicated design considerations.

The Board stated: "The Respondent, in determining that the ground bearing capacity was adequate (as opposed to carrying out the tests themselves) and in carrying out specific design by amending the provisions of an Acceptable Solution in relation to decks, has gone beyond the competence of a designer and into that of an engineer."

BRINGING THE LBP REGIME INTO DISREPUTE

The designer used an engineer's Producer Statement (PS1) for a balustrade system in the building consent application without consulting the engineer. In his response to the Inquiry, the designer stated that he "altered the Engineer's PS1 [in terms of address and date] and ... that it would not have affected the integrity of the overall system".

The PS1 was a declaration made by the signee (the engineer) that he had personally confirmed that the system was appropriate for use in this circumstance. As he had not been consulted, this document should not have been submitted. The Board stated:

"Given these factors, the Board considers the producer statement was, in essence, a false or misleading document and that to provide such an important document in the way that it was is something that could bring the regime under the Act into disrepute."

KEY POINTS TO TAKE FROM THE DECISION:

- Designers need to research the site before any detailed design is initiated.
- LBPs must work within their training, experience and therefore competence.
- Acceptable Solutions are one means of showing compliance with the Building Code. If a designer changes an Acceptable Solution then they are no longer working to a 'deemed compliance pathway'. Compliance with the Building Code must be identified and demonstrated in the documents submitted for the building consent.
- Understanding the regulatory environment and responsibilities around third-party verification is vital. Producer statements should be site specific and should not be modified, unless this is done by the author.
- Quality of documents, plans and specifications need to be sufficient to demonstrate compliance with the Building Code and be comprehensive enough for competent practitioners to follow and build to.

Further information on the Amendment Act and retentions is available on the MBIE website www.business.govt.nz

PROVE YOUR KNOWLEDGE!

Tick the correct answers below and record what you've learnt in the record of learning on the back page! Evidence of actual learning rather than just 'participation' is a key requirement of the LBP renewal process.

- To be acceptable, drawings and notes from a Design LBP done by hand need to be:
 - Typed out.
 - Legible and complete.
 - Signed off by an architect.
- What do designers need to understand and research about the site they are designing for?
 - Ground conditions, topography and existing services.
 - Zoning regulations.
 - The site footprint.
- Why was the Design LBP disciplined for performing a penetrometer test?
 - Because only engineers are allowed to perform this test.
 - Because he wasn't competent in all aspects of performing the test.
 - Because he had a non-LBP to perform the test.



Concrete slabs made easy



The full discharge of concrete from ready-mix trucks should be completed within 90 minutes after the commencement of mixing

Fresh concrete carries an expiry date – if you're not well organised with the right skills and equipment, you could have a disaster on your hands!

There is plenty to consider when laying a concrete floor slab; timing, the right amount of water and aftercare are three of the most crucial.

Once the concrete starts mixing, the clock is ticking! NZS 3104:2003 Specification for concrete production states that full discharge of concrete from ready-mix trucks shall be completed within 90 minutes after the commencement of mixing.

This is probably a little-known clause, but we all know that concrete will stiffen as the cement starts to 'go off', particularly in hot weather. The use of retarding

admixtures in summer and accelerating admixtures in winter will help alleviate issues, but being unprepared for the concrete truck comes down to bad planning.

PREPARATION, MIX AND WORKMANSHIP KEY

BRANZ Bulletin 498 Preparation for concrete floor slabs outlines key areas needing attention when preparing for a concrete pour. Also, the recent BRANZ Study Report 340 Revisiting concrete ground floor slabs concludes that good mix design and workmanship are the key to producing crack-free concrete.

Even though the concrete pour is typically carried out by a specialist subcontractor, it pays for the supervising contractor to be aware of the facts.

ISSUE OF UNCONTROLLED CRACKING

Uncontrolled cracking is undoubtedly the biggest issue with concrete floors and pavements.

As soon as the concrete starts to dry out, shrinkage commences and there is potential for cracking to occur given the low tensile strength of immature concrete. Water in the concrete mix is the biggest cause of shrinkage.

There needs to be just enough water to make the concrete workable, in order to place and compact it. Inevitably, around 7mm of shrinkage will occur over a 10m length of slab. If more water is added to increase the slump of the concrete and make it easier to place, this shrinkage could increase to 12mm in a 10m slab length.

Uncontrolled cracking is undoubtedly the biggest issue with concrete floors and pavements. As soon as the concrete starts to dry out, shrinkage commences

CONTROLLED ADDITION OF WATER

Did you know that NZS 3104:2003 allows the addition of water to the truck, provided it's in a controlled manner – up to 10L/m³ of concrete?

This is because the concrete may dry out through evaporation from the truck, particularly during summer's higher temperatures. This makes it hard to get the stiff concrete out of the truck, place it and fully compact it.

Also, where the transit time from the concrete plant to the site is considerable, slump loss may be an issue. Adding water is okay, but it must be a measured amount and with the agreement of the concrete plant.

Adding 10L/m³ only represents around 5% of the total water content of concrete and replaces the water lost through evaporation. Adding water in an uncontrolled manner is inviting problems of high shrinkage and low strength.

CONCRETE NEEDS EARLY ATTENTION

Concrete is vulnerable until it has gained some strength. The hydration of cement is a chemical reaction affected by temperature and the presence of moisture. As soon as the fresh concrete starts to dry to the atmosphere, shrinkage will commence and strength gain will slow. The critical areas to focus on are finishing, curing, saw cutting and mesh placement.

Finishing

A slab is very exposed to the weather when being placed, finished and cured. Avoid rain, strong drying winds (particularly in spring), hot sunny conditions and large temperature

drops overnight, as they can all cause cracking.

Download a localised weather forecast – some concrete suppliers offer this as part of their service. If conditions are unfavourable for concreting, delay the pour rather than taking a risk.

Curing

Curing ensures that the concrete does not dry out prematurely and gains strength from an early age. If the commencement of curing is delayed, you cannot make up for it by curing later – you will lose around 50% of the potential concrete strength.

Curing is achieved by flooding the concrete or sprinkling the entire surface. Alternatively, a plastic sheet can be laid on the surface and weighed down with sand or the like, so that wind cannot get under the sheet.

Curing should begin the day after pouring in summer, before the concrete surface has had a chance to dry out. Unfortunately, adequate curing is often ignored in practice – yet it is critical to achieving concrete strength gain and avoiding shrinkage cracking.

Saw cutting

NZS 3604:2011 Timber-framed buildings requires saw cutting – which creates weak links for shrinkage cracking to occur – to take place the day after pouring in summer and two days after pouring in winter (see Figure 1). This timing is critical, and the occurrence of uncontrolled cracking due to late saw cutting is far too common.

Once uncontrolled shrinkage cracks have formed, the saw-cut joints will not act as the weak link for shrinkage cracking to occur. Movement will always take place preferentially at the existing cracks.

Mesh placement

For slabs designed to NZS 3604:2011, the spacing of saw-cut joints, shrinkage movement joints and location of the reinforcing mesh are all important in avoiding shrinkage cracking. The

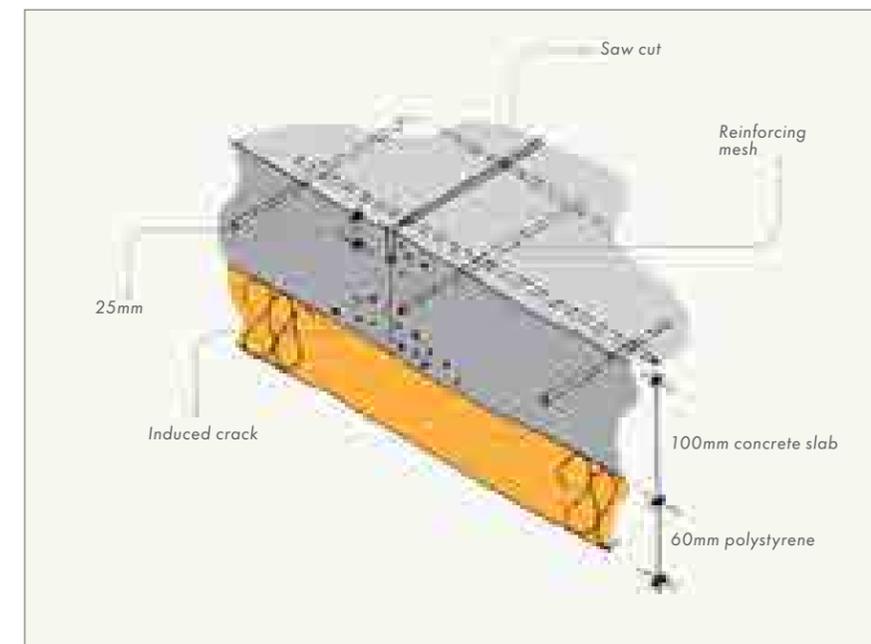


Figure 1: Shrinkage control joint

Concrete slabs made easy (continued)



reinforcing mesh needs to be at 30mm cover to the top of the slab (see Figure 2). Its main function is to prevent shrinkage cracks occurring between saw-cut joints.

To ensure the mesh is at the correct height, support it on mesh chairs. The required reinforcing mesh required is grade 500E (seismic mesh) 2.27kg/m² welded wire mesh.

The maximum distance between saw-cut joints is 6m, and every fourth joint should be a free movement joint at a maximum spacing of 24m (see Figure 2).

Where parts of the floor are exposed, such as for a coloured or polished floor, the saw-cut spacing should be reduced to 5m.

This text was provided by Derek Chisholm, author of Concrete Solutions.

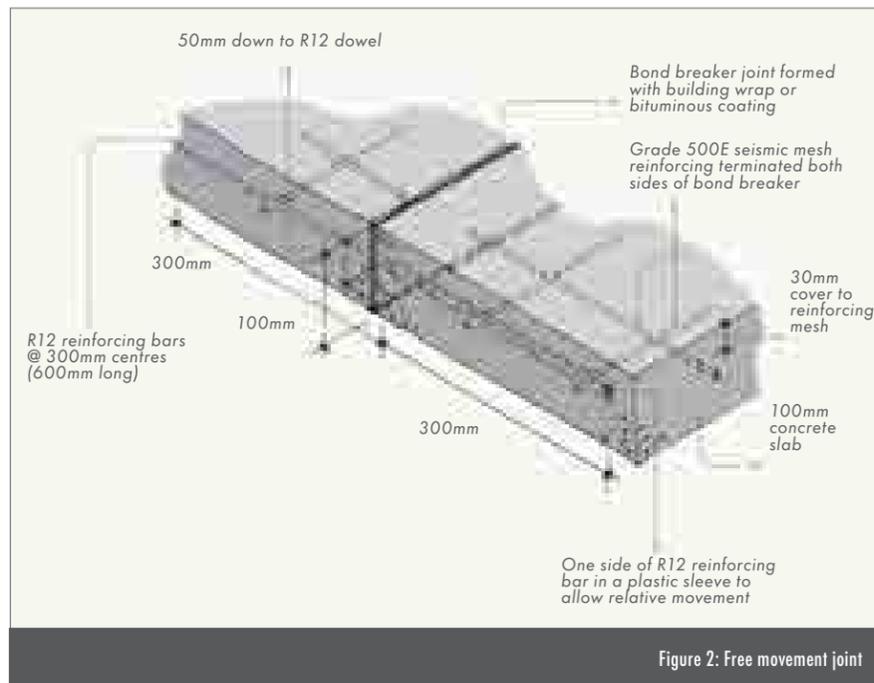


Figure 2: Free movement joint

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PROVE YOUR KNOWLEDGE!



Tick the correct answers below and record what you've learnt in the record of learning on the back page! Evidence of actual learning rather than just 'participation' is a key requirement of the LBP renewal process.

- | | | |
|---|--|--|
| <p>4) How much water does NZS 3104:2003 allow to be added to concrete?</p> <p>a) 10L/m³.</p> <p>b) 5L/m³.</p> <p>c) None.</p> | <p>5) What weather condition is NOT listed as a cause of concrete cracking?</p> <p>a) Wind.</p> <p>b) Hot, sunny conditions.</p> <p>c) Overhead cloud cover.</p> | <p>6) What happens if you add water to the mix in an uncontrolled manner?</p> <p>a) The concrete won't set.</p> <p>b) You could cause shrinkage and strength issues.</p> <p>c) The concrete will set too fast.</p> |
|---|--|--|

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Residential construction booming

Statistics New Zealand's Value of Building work report for the September quarter shows the residential construction sector won't be cooling down anytime soon

Total building activity grew 1.4% in the September quarter, following consecutive increases of more than 5% in the March and June quarters. The increase was driven by steady growth in the residential sector, as non-residential activity remained steady.

In current prices, the value of all building work was \$5.5bn – up 22% on the same period last year and up 3.2% compared to the previous quarter. For the September quarter, the value of building consents fell 2.3% – comprised of a 1.8% increase in residential consents and a 12.5% fall in non-residential consents.

For residential only, activity rose 2.4% in the quarter – this is the fifth consecutive quarter that there has been an increase of 2% or greater. By value, residential building work rose a seasonally adjusted 4.3%, following a 7.4% increase in the previous quarter.

The actual value of residential building work was \$3.3bn – a 25% increase on

the 2015 September quarter.

NON-RESIDENTIAL ACTIVITY FLAT

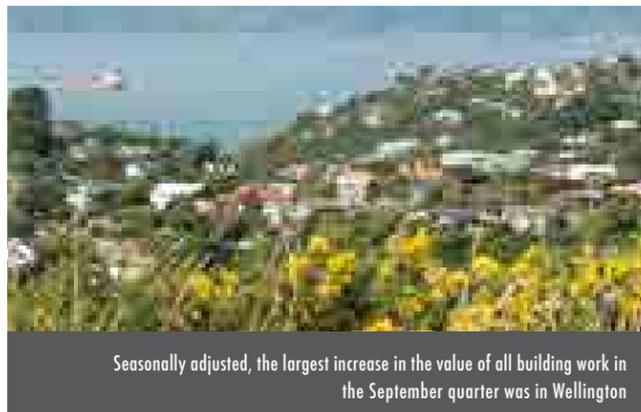
Non-residential building activity was unchanged in the September quarter, following increases of 5.9% and 4.8% in the March and June quarters respectively. In current prices, the value of non-residential building work was up 1.2%.

IN THE REGIONS

Auckland continued to dominate New Zealand's construction market, accounting for more than a third of all building work by value.

There was \$1.2bn of residential work in Auckland up (32% on the 2015 September quarter) with Canterbury (\$646m; up 1%) the next largest contributor.

The value of non-residential work



Seasonally adjusted, the largest increase in the value of all building work in the September quarter was in Wellington

in Auckland was up 33% from the September 2015 quarter to \$612m, Canterbury (\$553m; up 8.4%) was again the next largest contributor.

Seasonally adjusted, the regions that recorded the biggest increases in the value of all building work in the September quarter were:

- Wellington – up 18%.
- Rest of South Island – up 13%.
- Rest of North Island – up 6.5%.
- Waikato – up 2.8%.
- Auckland – down 0.2%.
- Canterbury – down 1.5%.

Home consents reach 11-year milestone

Second-highest number of homes consented in a year since 1974

The annual number of homes consented has passed 30,000 for the first time in 11 years, according to Statistics New Zealand.

The all-time high of 40,000 was recorded in early 1974; the second highest was 33,000 in mid-2004.

"One-third of the homes consented over the past year were in Auckland. That's almost 10,000, compared with 9,000 in the previous year," says business indicators senior manager Neil Kelly.

Statistics New Zealand data shows that a total of 2,575 new dwellings were consented in October.

Year-on-year, the October total – which included 1,802 houses and 229 apartments – was up 14%. For houses only, the seasonally adjusted number rose 4% following a 2.5% decline in October.

WELLINGTON CONTINUES TO LEAD THE CHARGE

Compared to October 2015, new

dwelling consents in October 2016 increased in 12 out of the 16 regions – led by Wellington (up 177 to 303), Waikato (up 43 to 302), Otago (up 25 to 161) and Northland (up 30 to 113). Bay of Plenty, Hawke's Bay, Manawatu-Wanganui, Marlborough, Tasman, Nelson, Southland and West Coast were the other regions to record an increase.

The biggest decrease was in Canterbury (down 102 to 387). Auckland, Gisborne and Taranaki were the three other regions to consent fewer new dwellings.

Female workers an untapped resource

BCITO identifies education as key to overcoming challenges on both sides of the fence

While the proportion of women working in the construction sector has increased over the past ten years, data shows they are still heavily under-represented on building sites across New Zealand.

A PWC report, *Valuing the role of construction in the New Zealand economy*, stated that female employment in the core construction sector has grown at a faster rate than for males in the past decade, which has caused the ratio of male to female workers to fall from 6.3:1 in 2005 to 5.9:1 in 2015.

That growth has seen 5,887 female workers join the construction sector in the ten years to March 2015 – equivalent to a 45% increase.

Perhaps surprisingly, figures from the past two years show that mean hourly earnings in core construction for females are higher than for males and, in 2015, women earned an average of \$27.96 per hour compared to the industry median of \$22.75.

However, when translated to mean weekly earnings, males earned more than their female equivalents – indicating that men in construction work more hours than women, which could be attributed to more women working in part-time or support roles.

This is supported by data published by BCITO in its Workforce Development Plans, showing the number of female support staff working in trades far outweighs the number of trade-qualified females.

BCITO chief executive Warwick Quinn acknowledged that positive progress has been made, but said that women are still under-represented in construction.

"For trades under BCITO's coverage, the number of female apprentices increased by 22% from the beginning of

2014 to the end of 2015, but the total percentage of female apprentices is a very small portion, at around 2%."

"Attracting women into the trades is a real opportunity; at the moment, it is an untapped market. We do, however, have a couple of challenges in this space: firstly, to convince them that a career in construction is a genuine option," said Mr Quinn.

"The second challenge is having an industry that is happy to employ women. We have many firms that would love to, but we also still have a fair few that are less enthusiastic and for all the wrong reasons.

"We need to educate and change these attitudes. You just have to look at other employers, such as the NZ Police, which have made a concerted effort to attract more women and been very successful."

FUTURE PLANNING

BCITO's Workforce Development Plans are aimed at a number of trades, including carpentry, all of which were developed alongside extensive industry consultation.

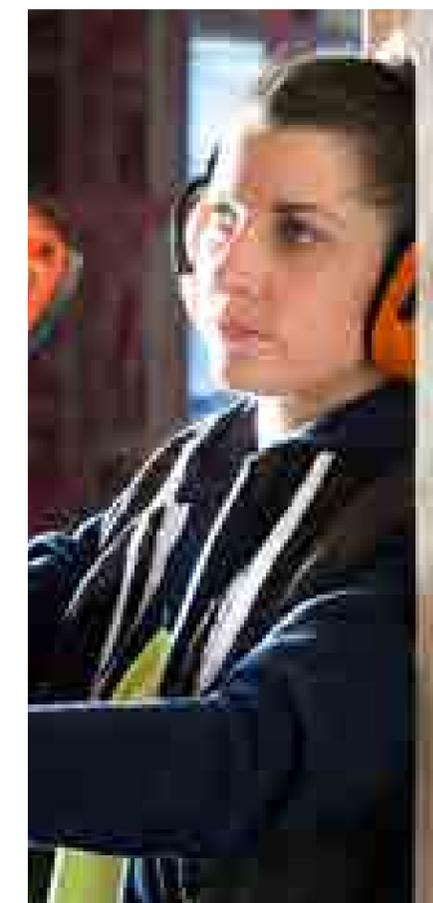
Mr Quinn said that, based on the feedback they received, the next stage is to develop tactics for each sector that are relevant to the work currently being undertaken, with key projects resulting from the workforce development plan including:

- Establishing a BCITO virtual schools academy for prospective apprentices.
- Creating and implementing a marketing plan for each sector to change perceptions.
- Investigating channels into industry and responding to barriers.
- Rolling out mentoring programmes

for apprentices and employers.

- Celebrating and promoting industry success.
- Creating digital tools for employers, including a best practice toolkit and information hub.
- Raising the perceived value of qualified tradespeople.

"We also have a couple of specific strategies focused on the long-term work predictions and skill demands in the 'Golden Triangle' (Auckland, Hamilton and Tauranga), as well as more flexible learning packages to better align with how businesses are structured," he said.



BCITO carpentry apprentice Anna Clearwater is looking forward to working in the building trade
Credit: BCITO

Importance of non-structural elements

Prompted by recent seismic activity across the country, MBIE has issued two practice advisories detailing the importance of ensuring non-structural and secondary structural elements will perform as intended in an earthquake

Both the 2010 and 2011 Canterbury earthquakes and the 2013 Wellington shake highlighted many cases where elements not part of a building's primary structure performed poorly, particularly in multi-storey buildings – a cause for concern, as they have the potential to cause injury and death.

As a result, the Ministry of Business, Innovation and Employment (MBIE) released two practice advisories to the building sector on non-structural elements and secondary structural elements in commercial buildings in November 2016.

Building and Housing Minister Dr Nick Smith said the advisories would help to improve the safety and resilience of commercial buildings during earthquakes.

"Structural failures in buildings pose the greatest risk to people's lives, but elements such as ceiling panels and ducting can also injure people and cause death. These failures are a major component of the post-earthquake repair cost that can significantly disrupt businesses and their staff while repairs take place," said Dr Smith.

"We are seeing too many examples of ceiling panels, ducting and features, such as hanging sculptures, failing in the Christchurch, Seddon and now Kaikoura earthquakes.

"Often these features are added after the building has had its Code Compliance Certificate (CCC) issued, without sufficient thought to the risks they pose in a seismic event. Particular care needs to be taken with those additions, which are sufficiently large to cause an injury or death."

An MBIE spokesperson said that

irrespective of whether the work was done before or after a CCC is issued, it is up to individual councils to determine what is required when consenting and signing-off non-structural elements. The spokesperson added that at all times, all building work must meet the Building Code and that building owners are obligated to ensure that requirement is met.

NON-STRUCTURAL ELEMENTS

MBIE Practice Advisory 19: Improving earthquake performance of non-structural elements defines non-structural elements as building components not considered part of either the primary or secondary structural systems, such as:

Mechanical and electrical plant.

- Ducting.
- Pipework.
- Cable trays.
- Suspended ceilings.
- Light non-load bearing partitions.
- Cladding systems, such as brick veneer.

Significant damage during the Canterbury earthquakes was caused by non-structural elements, such as ceilings and in-ceiling services, clashing as a result of insufficient clearance and/or stiffness incompatibilities.

When determining clearances for non-structural elements, use the clearance requirements of NZS 4219, where appropriate, or determine the clearance requirements taking into account construction tolerances, movements due to temperature change and the displacements that can arise from earthquake actions.

An MBIE spokesperson said that there

are a number of other common reasons non-structural elements can fail.

"Inadequate design, such as restraint systems that aren't strong or stiff enough to resist the earthquake's actions on the element, poor installation of the restraint system or no restraint system installed at all are all common causes of failure. Poor integration between the element, other elements and surrounding features is also another reason.

"However, even well-designed non-structural elements can fail, such as when nearby elements fall on them – which is why it's important these types of risks are taken into account when they're designed and installed."

SECONDARY STRUCTURAL ELEMENTS

MBIE Practice Advisory 20: Improving earthquake performance of secondary structural elements defines structural elements as building elements that are not part of either the primary lateral or primary gravity structural systems, but nevertheless are required to transfer inertial and vertical loads. Examples include:

- Precast panels.
- Curtain wall framing systems.
- Heavy internal partitions.
- Stairs.
- Significant building services.
- Large building ornaments.

MBIE recommends that an engineer with suitable competency and qualifications in structural engineering be made responsible for the design and construction monitoring of secondary structural elements.

The collapse of stairs and precast

cladding panels falling into the street are just two examples from the Canterbury and Wellington earthquakes of secondary structural elements failing.

All secondary structural elements and their connections need to be designed to resist earthquakes, including differential movements of their attachment points.

Secondary structural elements and their connections, both individually and as a part of a system, must also meet the applicable durability requirements of Building Code Clause B2 according to location and use. In many cases, this will be a minimum of 50 years.

ONSITE COLLABORATION KEY

Good communication between all parties, including building consent authorities, building owners, contractors, designers and engineers is required to ensure non-structural building elements and systems perform adequately in an earthquake.

MBIE recommends that all parties engage in the design process early, to facilitate good design and help avoid problems later. Early coordination of non-structural systems also helps avoid conflicting specifications and work plans.

Careful detailing is required for non-structural elements, so they can resist earthquake actions. Critical details, such as connections, restraints and, where required, flexible elements and/or separations should be identified and documented. There are generally two ways to detail non-structural elements and their connections:

1. Using details or proprietary systems verified as being compliant with the Building Code. These can be prescribed

in Acceptable Solutions, standards or in literature developed by technical groups.

2. Using details which have been subject to specific engineering design. Details that result from a specific design should generally be the responsibility of an engineer with competency in structural engineering in the application of earthquake actions, such as a Chartered Professional Engineer (CPEng).

"This guidance is a clear reminder to architects, engineers, contractors, building owners and councils of their responsibilities under the Building Act, that they must make sure the risk of collapse of non-structural elements is low," said Dr Smith. "The various players need to take a well-planned approach to make sure the design is coordinated and building elements are appropriately restrained."

LIABILITY DETERMINED CASE BY CASE

An MBIE spokesperson said that the penalties facing a builder or contractor found to have incorrectly installed non-structural or secondary elements that result in death or injury would be dependent on the specific circumstances surrounding that case.

"If the builder or contractor suspected



Good communication between all construction parties is required to ensure non-structural building elements and systems perform adequately in an earthquake

CONSTRUCTION MONITORING

Onsite construction monitoring is crucial to verify that design details are built as intended. Particular attention should be applied to critical design information, such as fixing/anchorage details and seismic clearances, such as clearances

between non-load bearing panels and building columns.

Seismic gap details should be inspected periodically – during and after construction – to ensure that the gaps have not been partially or fully

of being at fault is a Licensed Building Practitioner (LBP), they could face disciplinary action through the LBP Board following a complaint. Similarly, if a design issue was found to be the fault, the engineer responsible may face disciplinary action through IPENZ or the Chartered Professional Engineers Council.

"Depending on the circumstances, other courses of action might include the council issuing a 'notice to fix' against the building owner, or civil or criminal proceedings being laid against the builder or contractor suspected of being at fault. There may also be health and safety responsibilities under the Health and Safety at Work Act on the building owner for ensuring the safety of people who use their building."

The full practice advisories can be found on MBIE's website under Building Code compliance>B Stability>B1 Structure>Updates. They outline in more detail what is required of designers, contractors, building consent authorities and building owners. It is likely that these will have been updated since this was printed following investigations into the performance of commercial buildings during the 14 November Kaikoura earthquake.



Blowing up the boom!



Smart business owners use profitable times to invest in learning, such as checking out new developments in architecture and engineering

Are you experiencing good times? Here are the top three areas of your business you should be focusing on to make the most of it

Have you found yourself uttering any of these phrases during the past few months?

- "All my jobs come by word of mouth – I don't even advertise."
- "I have so much work that I don't quote anymore – I just do charge up."
- "There's so much demand, I'm working longer hours."
- "It's hard to get good staff, so I've gone back on the tools."

If the answer is yes, then you're probably experiencing a boom. Great! But while a boom brings benefits, it also has challenges that can cause inexperienced business owners

to come unstuck.

Most experienced business owners (who have been through growth and recession before) recognise the challenges of boom times. They know SMEs struggle in recessions if they don't adapt quickly enough to market changes or when they don't stay on top of their accounts payable. They also know that, even in growth, SMEs struggle with cash flow, price increases and supply and labour constraints.

You may notice that most corporates seem to ride out both recession and growth. While this might be partly due to guidance from professional staff or a global reach that enables them to spread the risks of one market into another, those aren't the only reasons

they survive. They also stick to proven business practices.

Outlined below are three disciplines that can strengthen SMEs during the growth phase of the economic cycle.

1. Increase your financial oversight

I meet countless builders currently who are so busy that they have offloaded their financial management to an assistant, outsourced it or just let it pile up. While I am a firm believer in delegation, when I meet a business owner looking for financial direction from assistants, I know I am seeing someone who has reached the upper level of their ability.

This lack of insight may cause them to make risky financial decisions that

could affect the longer-term viability of their business. For example, going for rapid growth in revenue (because we are in boom times) at the expense of profitability, feels good for a time but can herald disaster!

BIGGER BUSINESS, BIGGER COSTS

The thing is, in the rapid expansion phase of a building business, wages and supply costs can outstrip income as more builders and subbies are engaged, with a corresponding increase in the number of invoices needing to be paid – often before payments are received from customers! An inability to pay these bills can severely limit a business' ability to operate.

If a rapidly growing company needs an injection of cash or an overdraft facility, it's best to organise this in advance. Another option is to amend the company's terms of trade with contractors and suppliers to improve cash flow; however, this needs to be instituted early enough to have an impact and not hurt existing relationships.

Your assistants may not know the level of future sales you have been making, nor how these will impact the business. So relying on them for financial advice could be risky. You, as the business owner, need to exercise foresight over your future cash flow demands.

Your assistants should be supplying all manner of information to indicate the

financial status of the company, but the overall direction of the company is too important to be delegated. Setting direction is your role as business owner.

It's important that you know how to read your financial indicators and how to identify areas where you need to put better strategies in place. You don't need to be an expert in all the strategies – just be aware of when and where intervention is needed. Once you know the nature of the intervention, you can search for help.

2. Strengthen staff training

In recession, there are often many applicants for every job and your company doesn't need to do as much training or recruiting – just good screening to fill your staff requirements. But in growth, there are fewer applicants, often with lower levels of skill. Training is needed to bring them up to the standards you require.

You may have noted that, in growth times, corporates add team trainers to their HR departments. However, these same people are the first to be let go in recession.

During growth, when you are busy – and don't have the time – is precisely when you need to take a leaf out of the corporates' book and put in place some really good training processes. Do it now, before you are desperate. You need to give more training to new recruits in periods of growth.

An added benefit is that as you spend time identifying and teaching your procedures, you will be likely to find areas where you can improve your processes. Thus, as you expand your team, you are likely to do so with better systems and (hopefully) fewer problems.

3. Keep abreast of new technology

Successful corporates invest in staying current. There is no question that technology is changing how we do business. Desk phones are almost obsolete, online apps deliver high-powered functionality wherever you are at low cost. Programme scheduling, customer and supplier connectivity, recording and almost everything else can be conducted through handheld devices.

Technology is also changing what and how we build, the materials we use and the systems involved. Change is a constant and keeping up can feel like an uphill battle.

However, smart business owners use busy, profitable times to invest in learning, visit trade shows, research markets, listen to industry experts and social commentators and check out new developments in architecture and engineering.

Sure, no one can keep up with everything, but developing an inquisitive attitude towards technology will ensure you are not left behind.

Graeme Owen, based in Auckland, is a builders' business coach. Since 2006, he has helped builders throughout New Zealand get off the tools, make decent money, and free up time for family, fishing, and enjoying sports. www.thesuccessfulbuilder.com

PROVE YOUR KNOWLEDGE!

Tick the correct answers below and record what you've learnt in the record of learning on the back page! Evidence of actual learning rather than just 'participation' is a key requirement of the LBP renewal process.

- | | | |
|---|---|---|
| <p>7) What is a financial risk of rapid business growth?</p> <p>a) Fewer job applicants.</p> <p>b) Investing too much in training procedures.</p> <p>c) Wages and supply costs can outstrip income.</p> | <p>8) What added benefit of investing in training is mentioned?</p> <p>a) You will be likely to find areas where you can improve your processes.</p> <p>b) You are more likely to retain new recruits.</p> <p>c) You will learn more about yourself as a trainer.</p> | <p>9) Why should you develop training processes ahead of a boom period?</p> <p>a) Because it is cheaper to do so during a recession.</p> <p>b) You're more likely to hire low-skilled staff during a recession.</p> <p>c) Because new recruits require more training in growth periods.</p> |
|---|---|---|



Smart scaffolding

WORKSAFE
NEW ZEALAND



You must implement a safe system of work before any scaffolding work starts

Scaffolding work usually occurs within a larger context and can be impacted by other activities on a worksite. It's important that you plan for and manage these activities in consultation with other PCBUs and workers when bringing scaffolders onto site

Site management includes everything from ensuring there are the right facilities, PPE, and equipment to do the work, to site-specific issues such as traffic management or containment of hazardous substances.

All associated risks, including any related to connected work such as construction, must also be controlled so they do not cause harm to anyone.

That's why it's important you must implement a safe system of work before any scaffolding work starts, to ensure it takes place in the right location, with the right plant and equipment on site, and with the right workers with relevant competencies.

COMMUNICATION IS KEY

Make sure to engage with anyone carrying out the work and their representatives when developing the safe system of work. Cooperate, coordinate

and consult with other PCBUs so far as is reasonably practicable. A safe system of work should include:

- Engaging workers.
- Assigning responsibilities.
- A safe work method statement.
- Consulting a competent person regarding any temporary works design.
- Identifying any health and safety hazards and risks.
- Carrying out a risk assessment.
- Describing how you will control any identified risks.
- Describing how controls will be implemented, monitored and reviewed.

- Communication systems.
- Accident investigation and reporting methods.
- Emergency procedures.

ASSESS THE SITE

Before work assembling scaffolding begins, you should undertake a site assessment. Be sure to consider the following:

- What is the purpose of the scaffold, and who will be using it?
- What is the nature of the ground, surface or structure on which the scaffold is to be erected? Does it need to be verified for load-bearing capacity?
- How will the scaffold be stabilised from overturning? If it will be tied to a structure, how will this be done?

- Will the scaffold be subject to environmental loads such as wind, vehicle impact, or snow?
- How will workers and vehicles access the site and work area for storage of material and equipment?

Consider where you're going to store materials when installing scaffolding

- Does the scaffolding create risk for workers on and/or around it?
- Are there electrical conductors or cables in the vicinity of the scaffold? Could the scaffold or workers come into contact with them at any stage of the scaffolding process?

It's important to be aware of these issues right throughout the process, including during delivery of equipment, scaffold erection, scaffold use and dismantling/removal.

SITE MANAGEMENT

Ensure that you've considered the following before bringing any scaffolding material onto site:

- Is there sufficient space to erect the scaffold and store scaffold materials?
- Is the scaffold to be erected on a public roadway or footpath, and what are the local authority

requirements?

- How will the site be protected from unauthorised access?
- Is pedestrian access through the site required? How will this be managed?
- Is a specific traffic management plan required?
- Are there any other potential hazards specific to the site?
- Does the work need to be notified to WorkSafe?
- Should anyone else be notified?
- Securing the work area.

Your site security should consider all risks to workers and others. Establish the work activity's boundary before securing the work area – it may be smaller than the whole workplace, so as a work activity moves, its boundary moves with it.

As the work boundary moves, you should, so far as is reasonably practicable, eliminate or minimise risk to workers and others outside the work activity.

Nearby workers have a responsibility to take reasonable care that their actions (or lack of actions) do not put themselves or others at risk.

They must also comply with any reasonable instruction given by the PCBU, as far as they are reasonably able to.

When organising site security and access, consider:

- Warning or hazard signs.
- Supervising authorised visitors.
- The risk of unauthorised access occurring (consider schools, parks, shops or other public places, or amenities and events nearby).
- Pedestrians and other members of public.
- Other workers and mobile plant on site.
- Vehicle traffic control within and near the site.
- Delivery points, including vehicle access and egress.
- Immobilising/locking vehicles.
- Safe and secure storage of materials (eg, stacked equipment).
- Control of energy sources (eg, temporary mains service boxes).
- Suitably designed and constructed physical barriers (eg, safety fences, lockable gates, or covers).

The above is taken from Good Practice Guidelines: *Scaffolding in New Zealand*.

Full text can be found on Worksafe's website under 'Guides' on the Construction and Building page.

PROVE YOUR KNOWLEDGE!

Tick the correct answers below and record what you've learnt in the record of learning on the back page! Evidence of actual learning rather than just 'participation' is a key requirement of the LBP renewal process.

- 10) What should you include in a safe system of work?
- Accident investigation and reporting methods.
 - Vehicle registration numbers.
 - A list of tools kept on site.

- 11) What is each worker responsible for?
- That their actions (or lack of) do not put themselves or others at risk.
 - Only their own personal safety.
 - Nothing if they're not a PCBU.

- 12) What is NOT listed as an environmental load in the article?
- Snow.
 - Wind.
 - Flood water.



Earthquakes shake insurance



After the Christchurch quakes, it was impossible to secure contract works cover for a period of time and a similar situation could occur again

As a result of the recent Kaikoura earthquake, aftershocks and a heightened risk of more seismic activity, New Zealand's major insurers have created a 'restriction zone', within which there are significant limitations on the availability of new insurance. It's important you understand how this could affect your business

The creation of these zones is largely due to international reinsurers imposing restrictions on the local insurance market.

At the time of writing, the zones and the limitations imposed vary by insurer, but broadly cover a region from Wairarapa to North Canterbury and

everything in between. Christchurch, areas of mid-Canterbury and the West Coast are restricted by some limitations, but not others.

These restrictions may make it very difficult, if not impossible, for some people to arrange insurance for new construction work in the restriction zone,

or to increase their sum insured.

They also apply to other classes of asset insurance, such as house and contents, tools and equipment. The restrictions may also have a flow-on effect on areas outside this zone, with additional information required and conditions imposed. Non-asset insurance such as

liability and indemnity, life, medical and income protection are not affected.

Motor vehicle cover is available, subject to some additional information. Some insurers will arrange new cover for existing customers, again with conditions.

These restrictions may make it very difficult, if not impossible, for some people to arrange insurance for new construction work in the restriction zone, or to increase their sum insured. They also apply to other classes of asset insurance, such as house and contents, tools and equipment

CONTRACT WORKS INSURANCE

After the Christchurch earthquakes, a number of issues with contract works insurance arose that are worth highlighting again.

Heavy demand for demolition and removal services following the Christchurch quakes caused a sharp spike in the cost of these services. Contract works insurance typically includes an allowance for these costs, but the default values in standard building contracts were not enough after an area-wide event like an earthquake. Make sure you allow enough in both your contract and insurance to cover these costs.

HOW IS THE NATURAL DISASTER EXCESS CALCULATED?

Insurers have different formulas for working out the claim excess after a natural disaster.

It could be a percentage of the cost of the actual damage, or a percentage of the work completed when the claim occurs and it could even be a percentage of the total contract price! Your policy will describe the formula that applies to you.

WHO PAYS THE EXCESS?

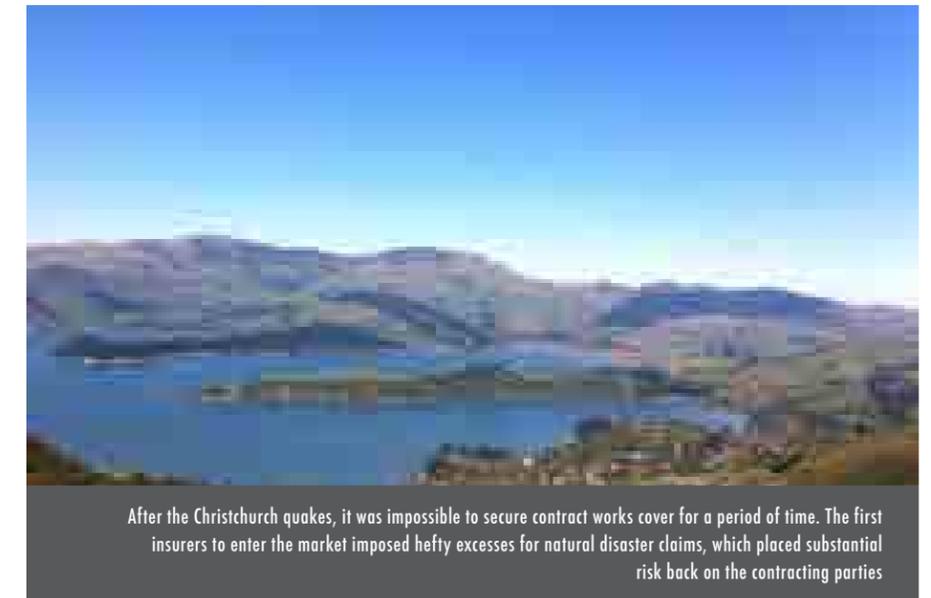
After the Christchurch quakes, it was impossible to secure contract works cover for a period of time. The first insurers to enter the market imposed hefty excesses for natural disaster claims,

which placed substantial risk back on the contracting parties.

Your building contract should specify who is responsible for paying the excess if a natural disaster insurance claim needs to be made. In general, this should not be the builder's responsibility, but your contract needs to be clear on this point.

The cost of the recent quakes, plus a heightened risk of damage from future aftershocks, means some types of insurance could be unavailable or restricted for some time.

You also need to consider whether the cover in your policy is adequate and your contract protects you properly.



After the Christchurch quakes, it was impossible to secure contract works cover for a period of time. The first insurers to enter the market imposed hefty excesses for natural disaster claims, which placed substantial risk back on the contracting parties

Builtin Insurance is a specialist in insurance and guarantees for builders and trade professionals. For more information and quotes visit www.builtin.co.nz or contact Ben Rickard at ben@builtin.co.nz or 0800 BUILTIN.

PROVE YOUR KNOWLEDGE!

Tick the correct answers below and record what you've learnt in the record of learning on the back page! Evidence of actual learning rather than just 'participation' is a key requirement of the LBP renewal process.

13) In insurance terms, what is a 'restriction zone'?

- a) Areas within which there are significant limitations on the availability of new insurance.
- b) Areas within which no insurance is available.
- c) Areas where existing insurance policies are frozen after a natural disaster.

14) What was an issue with contract works insurance following the 2010 and 2011 earthquakes?

- a) There were no particular issues.
- b) It was unavailable for a period of time.
- c) Insurers froze existing policies.

15) How is the natural disaster excess calculated?

- a) Your age multiplied by your net profit for the previous financial year.
- b) Each insurer uses a different method, so you should check your policy.
- c) It's a percentage of the work completed to date.



Are you prepared?



Make sure site sign-in registers and information regarding emergency procedures are kept visible in an easily accessible area

Recent events have served to remind us that natural disasters can strike at any time and no doubt they will have been a topic of conversation at your work place. It's important that you're ready for anything – be it an earthquake, fire or accident – so we've put together some tips to help you with your emergency response planning

People's safety should be the first priority in any emergency. Make sure you have a system in place for getting in touch with all your staff and ensure their emergency contact details are up to date.

It's also important that you keep track of how many of your team are on

site and need to be accounted for. If evacuation is required, take the register to the evacuation point so you can sign everyone off. Also, check the sign-in register to make sure visitors are safe.

PREPARATION IS KEY

The most important thing when it comes to dealing with emergencies is being

prepared. The best way to ensure you and your staff are ready is to have a concise, well-tested emergency-response plan.

Your emergency plan should include the following:

- Locations of alternative exits.

- Keep an up-to-date register of your emergency equipment (such as extinguishers, fire blankets); include when they were last tested and where they are located.
- Make sure your staff know where the evacuation point is and ensure it's in a safe place, away from obvious fire, earthquake or flooding hazards.
- Make sure everyone is aware of what the emergency procedures are, and remind them at Toolbox Talks or prestart meetings.
- Know where your nearest Civil Defence assembly point is.
- Keep a list of what's in your Civil Defence kit.
- Where possible, make sure everyone has personal emergency supplies, which should include water, food, a First Aid kit and other emergency supplies.
- Keep a list of people who have specific skills and responsibilities in an emergency and their contact details.
- Keep a list of fire wardens and the date they were trained.
- Keep a record of emergency plan tests and trial it regularly to ensure it's effective.
- Keep a list of emergency contacts, including useful services such as the doctor/medical centre, hospital, poison centre, local council, pollution hotline, neighbours, insurer, plumber and electrician.
- In case of chemical/environmental emergency, store appropriate personal protective equipment (PPE) on site. Make sure everyone is trained in the safe control of any chemicals you have on site and up to date with emergency procedures associated with their use.

The best way to ensure you and your staff are ready is to have a concise, well-tested emergency-response plan

When disaster strikes:

- Turn on your radio for advice and information.
- Know the Civil Defence warning signal.
- Know your nearest Civil Defence post and Police station.
- Make sure you have provisions available in case you are stuck at work for several days.
- Report to your manager any events that harm people or damage property.

If an earthquake strikes while you're at work, remember:

- Keep calm.
- Drop, cover and hold.
- Do not run outside and stay indoors where practical.
- Keep away from windows and heavy furniture.
- If necessary, evacuate using a previously identified route. Take bags, phones, wallets and emergency supplies.

After the quake, make sure to:

- Gather staff together and establish everybody's condition. After stairs are checked, try to gather workers in one place.
- If the building is damaged, turn off water, electricity and gas at mains if safe to do so – conserve your water.

- Treat any injuries.
- Get in touch with your neighbours – they may need help.
- If help is needed, go to your nearest Civil Defence post.

Be extra careful when re-entering buildings after an earthquake:

- If you're a business owner, listen to Civil Defence advice and, when safe, carefully inspect your building's exterior.
- If you're a worker, wait until your boss tells you it's safe to go back to work.
- If you see cracks, or have the slightest doubt about the safety of the building, get an expert report before going inside.
- Once you are cleared to enter the building, be extra vigilant as the contents of the building may have shifted, material may have fallen and there could be unexpected hazards.
- If you know there are chemicals or other dangerous materials, make sure to wear PPE and be very careful when going inside.

If a tsunami happens while you're at work and your business could be affected, remember to:

- Go to high ground immediately – know in advance your route to a safe location.
- Go to at least 1km inland or 35m above sea level. Make sure to leave room for the people behind arriving behind you.
- Don't be tempted to go 'sightseeing'.
- Listen to the radio for information and follow Civil Defence instructions.

Are you prepared? (continued)



Make sure everyone is trained in the safe control of any chemicals you have on site and up to date with emergency procedures associated with their use

- Use your spill kit if appropriate and safe to do so.
- Prevent the chemical from entering drains or leaving the site.
- Dispose of waste safely, as set out in the safety data sheet.

In case of a hazardous substance spill:

- Raise the alarm.
- Evacuate if necessary.
- Identify the substance if safe to do so.
- Put on PPE.
- If safe to do so, close off the source of the spill (eg, secure tops or lids).
- Remove sources of ignition if flammable substances are present.
- Identify the danger posed by the spill, but only respond if safe to do so.
- Refer to the safety data sheet or call an approved handler or other specialist for advice.
- If necessary, call emergency services and advise the local council.

In case of a fire:

- Raise the alarm.
- Evacuate.
- If safe to do so, activate any emergency shutdown systems.
- Call 111 and your manager.
- If it's a small fire and it's safe to do so, use your fire extinguisher; if it's a large fire, don't try to extinguish it - retreat to a safe distance and call 111.
- Don't use water on petroleum or electrical fires.
- Do not endanger yourself.
- Make sure you have an escape route.

To talk to a health and safety advisor about emergency planning, or for a free emergency response plan template,

head to www.sitesafe.org.nz.

The Civil Defence website, getthru.govt.nz, also has useful information.



Make sure hazards and dangerous areas are clearly identified

Site Safe is a not-for-profit, membership-based organisation that promotes, inspires and supports a culture of health and safety in New Zealand construction.

PROVE YOUR KNOWLEDGE!

Tick the correct answers below and record what you've learnt in the record of learning on the back page! Evidence of actual learning rather than just 'participation' is a key requirement of the LBP renewal process.

- | | | |
|--|---|--|
| <p>16) What should you NOT do in the case of a hazardous chemical spill?</p> <p>a) Hose the offending substance down the nearest drain.</p> <p>b) Remove sources of ignition.</p> <p>c) Raise the alarm.</p> | <p>17) What should you do if a tsunami strikes while you're at work?</p> <p>a) Go at least 1 km inland or 35m above sea level.</p> <p>b) Look for a boat.</p> <p>c) Stay put and wait until you're given the all clear.</p> | <p>18) Why is regularly testing your emergency plan important?</p> <p>a) To ensure its effectiveness in the case of a real emergency.</p> <p>b) It's a good team-bonding exercise.</p> <p>c) Because of staff changes.</p> |
|--|---|--|



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PROVE YOUR KNOWLEDGE

1) <input type="checkbox"/>	7) <input type="checkbox"/>	13) <input type="checkbox"/>
2) <input type="checkbox"/>	8) <input type="checkbox"/>	14) <input type="checkbox"/>
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4) <input type="checkbox"/>	10) <input type="checkbox"/>	16) <input type="checkbox"/>
5) <input type="checkbox"/>	11) <input type="checkbox"/>	17) <input type="checkbox"/>
6) <input type="checkbox"/>	12) <input type="checkbox"/>	18) <input type="checkbox"/>

FEBRUARY 2017

For ease of record keeping, use this coupon to collate your answers from within this issue of **Under Construction** and then sign and date it as proof of your own learning.

Signature _____ Date _____

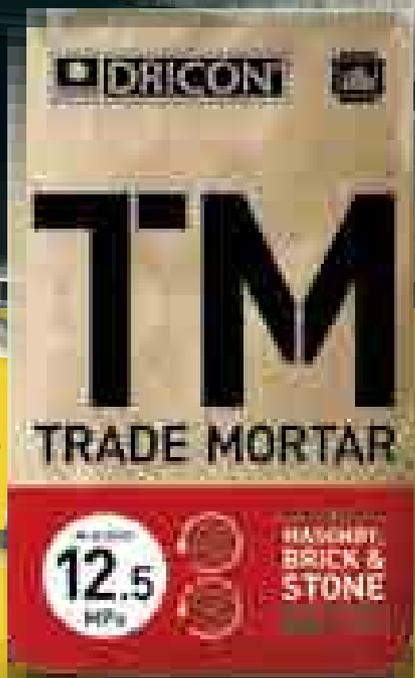




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