

straight up

THE MAGAZINE OF THE BUILDING OFFICIALS INSTITUTE OF NEW ZEALAND

DECEMBER 2018

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SCNZ leads compliance in structural steel

Knowledge Flows & Unconscious Bias – why smart people make bad decisions

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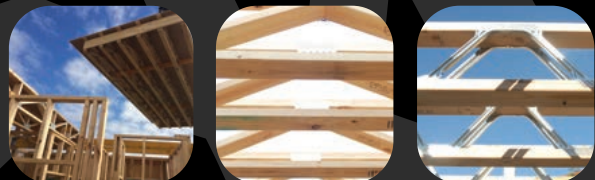
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Message from the Chief Executive

As we gallop towards the end of 2018, and say yet another farewell to a whirlwind year, I would like to wish you all a well-earned Christmas/New Year break.

You will likely concur that 2018 has been exceptionally busy, if not hectic. The impact of record and increasing dwelling consents (expected to peak over 33,000 this year), and a diminishing skill pool with unemployment at a 10 year low, has seen our already stretched building surveying sector “under the pump”. While we should be proud of what we do and achieve, I cannot emphasise more the key words that make a success of any regulatory environment; - professionalism and quality. With the 2018 National Construction Pipeline Report indicating dwelling consents likely to be near 43,000 by 2023, the focus on professionalism and quality is now more important than ever, if we are to continue to maintain the trust of building end users – the owners.

We know regulations are associated with minimum standards and a mindset of compliance. In this regard professionalism in the form of optimal standards, personal responsibility and a dedicated conscientiousness in the exercise of personal judgement is paramount. Your commitment to professionalism over the coming years will be critical both in terms of efficiency and quality outcomes as well as for risk management. The support of employers in ensuring competence is a vital aspect in this equation too.

There is an old saying “when the going is tough, the tough get going”. Throughout the year the Institute, mindful of the hurdles ahead, has been pursuing continuing existing projects and working on new opportunities to grow our people.

The big ticket item for 2018 was the establishment and delivery of the in-employment pathway for the new New Zealand Diploma in Building Surveying. While early registrations didn’t meet earlier survey projections, this qualification pathway is now up and running with improved numbers coming through. In parallel we have also been working on the development of the new New Zealand Certificate in Building Regulatory Environment, with a launch date early 2019. Our strategy to provide a programme for an increasing demand for BCA competency training saw us launch a number of Advanced Training Courses during the year with more to come in 2019. I would personally like to thank all involved in helping the Institute with the vision and planning required to bring about these outcomes. Our goal around education and training has always been around quality and we have been fortunate to have professional input from members and industry alike.

The day to day impacts resulting from skill shortages in our sector have been all too apparent this year. We have had a media presence highlighting capacity issues, as well as playing an integral role in promoting building surveying as a career. Our new career booklet has been well received and our HR Division has actively supported the promotion and placement of local and international recruits to building surveying roles in this country. We have also lifted our social media presence to gain wider audience attention around what we do, the events and activities we are involved in, and importantly opportunities available in the sector. More recently we have undertaken two membership surveys, one of which is around remuneration, the results of which will be available early 2019.

On the advocacy front, our thrust has largely been in the area of product conformance and compliance. As members you have expressed concern you are not convinced our current regulatory environment protects the building owner, and there is limited protection for a consenting authority in a fast paced information scarce global product supply environment. The Institute has been one of the earliest advocates of mandatory 3rd party certification for critical products in the core build areas of structure, cladding, fire and health. It is interesting to note the recent Australasian Senate enquiry final report into Product Conformance has already recommended consideration be given to such a regime.

As we head into 2019, the Institute has a theme of Getting it Right - Lead the Way, an extension from Innovate, Motivate and Collaborate in 2018. The Institute has always had a leadership role and next year will be no different. At a high level there has been collective agreement across industry to the delivery of high quality building outcomes. Traditionally our overview in the building process sets expectations, whether by traditional methods or through innovation. I have no doubt the environment over the next few years will be tough. The key to success will be a commitment to knowledge and skills across the sector. Our job as members is to get it right by leading the way.

In closing, I would like to thank all members and stakeholders for your support over the year, whether you attended our Branch and Networking meetings, conferences or one of our many training courses. Keep safe, travel well and we’ll see you next year. A very Merry Christmas and Happy New Year.

Nick Hill
Chief Executive

BOINZ 2019 Annual General Meeting Notice

The Institute’s 2019 Annual General Meeting will be held at The Rotorua Energy Events Centre in the Main Plenary on Monday 20th May 2019 commencing at 3:45pm.

Access for financial voting members to the 2019 AGM will be by identification via your current Membership Card, proving current membership status.

AGM Timelines

Notices of Motion to the Chief Executive to be received by 8 March 2019 (At least 48 days prior to the AGM)
Notices of Meeting, agenda and any notices of motion to members by 5 April 2019 (At least 28 days prior to AGM)

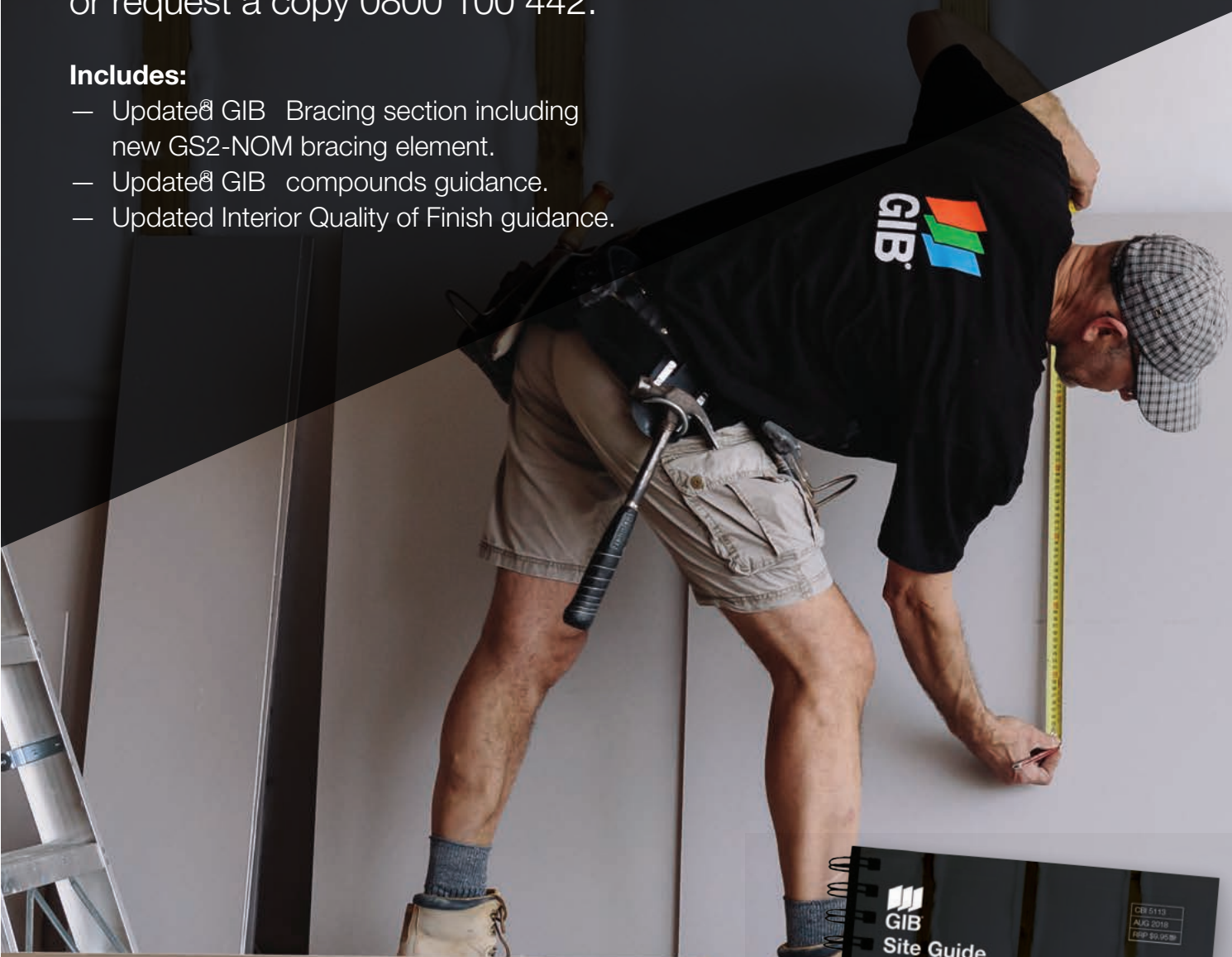
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SCNZ leads compliance in structural steel industry

By Alistair Fussell



Alistair Fussell is Senior Engineer and Director of Tangent Consulting Ltd, a company that offers specialist structural steel support services to industry, and design and construction professionals. He has nearly 30 years' structural engineering experience, including 17 years working for various consulting engineering practices and 11 years for industry organisation Steel Construction New Zealand. Alistair is a chartered professional engineer (CPEng), a chartered member of Engineering NZ (CMEngNZ) and a member of the Standards Australia BD 023 Committee: Structural Steel.

The globalisation of supply chains for construction materials and prefabricated structures has sparked concern over the quality of such products, particularly those sourced from low-cost economies such as South East Asia. Substandard materials and workmanship have the potential to be the next 'leaky building' crisis confronting the construction sector if this risk is not properly managed.

This situation isn't helped by New Zealand's relatively weak compliance regime. While manufacturers and importers are obliged to supply products that meet the relevant requirements of the Building Code, there is no requirement for third parties to be involved in assessing the capability of manufacturers or the quality of their products.

Mindful of the soft compliance landscape, Steel Construction New Zealand

(SCNZ) has proactively developed and implemented a suite of initiatives over the past five years to reduce the risk of sourcing non-compliant structural steels and fabricated structural steel for local building and infrastructure projects: Steel Fabrication Certification, Steel Distributor Charter and several key publications.

The structural steel industry's proactive quality assurance initiatives are increasingly being accepted by engineers and consenting authorities as best practice for ensuring the quality of prefabricated structural steel buildings and structures. These aim to strengthen the weak construction product compliance regime in New Zealand and will, in time, become recognised as quasi-regulatory requirements for the supply of structural steelwork.

SFC

Industry-led quality assurance scheme Steel Fabrication Certification (SFC) provides independent expert assessment of the compliance of structural steel contractors with the requirements of the Fabrication and Erection Standard AS/NZS 5131.

SFC was launched in 2014 and is based on international best practice. More recently, SFC has been extended to include a site erection module, which broadens the scheme by capturing activities including on-site bolting, welding and erection. Importantly, the New Zealand-based workshop fabrication module of SFC is a prerequisite to achieve the erection module.

All participating structural steel contractors are certified by an independent auditing authority, HERA Certifications Ltd. Certification for both the fabrication and the erection modules is valid for five years but is subject to an annual surveillance audit to ensure the integrity of the scheme.

The major benefit of SFC is that it provides procurers and specifiers with certainty of product quality and significantly reduced compliance risk. Furthermore, as prequalified structural steel contractors meet the requirements of AS/NZS

5131, the process of selecting capable subcontractors becomes easier for builders.

Today, 30 companies are qualified under the scheme and it will become mandatory for all SCNZ structural steel contractor members from 2020.

STEEL DISTRIBUTOR CHARTER

The Steel Distributor Charter is an independent assessment designed to provide certainty that structural steel distributors (steel importers) follow good procurement practices.

Chartered Steel Distributors are required to operate a quality management system (QMS) that covers the requirements outlined in the scheme's implementation rules. Compliance with the rules is established by an audit process and certification is granted by a qualified QMS conformity assessment body.

Distributors are required to engage a metallurgist or material engineer to assist them with the implementation of the Charter requirements.

To date, six companies have signed up to participate in the scheme and have until July 2019 to be prepared for the first audit.

PUBLICATIONS

New Zealand Steelwork Specification in Compliance with AS/NZS 5131 (NZSSS) SCNZ has produced a steelwork specification to assist engineers to specify structural steelwork to the new Fabrication and Erection standard AS/NZS 5131, as cited in the Building Code in April 2018. AS/NZS 5131 specifies not only technical requirements but also comprehensive conformity requirements, including those for structural steel contractor competence, and the inspections and testing needed to demonstrate compliant workmanship.

Independent third parties with appropriate expertise are best placed to evaluate compliance with these requirements. Using a risk-based approach, the specification includes requirements for projects involving SFC-qualified contractors and non-SFC-qualified structural steel contractors.

To reduce the risk of sourcing non-compliant structural steel products, the NZSSS specifies that structural steel and fasteners are sourced in accordance with the recently published Guide to the Sourcing of Compliant Structural Steels and Practice Notes – Sourcing Structural Fasteners and Anchor Bolts. Guide to the Sourcing of Compliant

STRUCTURAL STEELS

The Guide simplifies the local practice for demonstrating the conformity of structural steels. It applies a risk-based approach to determine what evidence of conformity is warranted for structural steels. In particular, it identifies if project-specific, third-party testing of any steel is required. The Guide applies to locally and internationally fabricated structural steel.

As well as suggesting an implementation plan, the Guide discusses the roles and responsibilities of various parties in the structural steel supply chain, including the project engineer, structural steel contractor, steel distributor, builder, specialist metallurgists and product testers.

The Guide includes two worked examples that illustrate its use for a warehouse and a high-rise office building in a region of high seismicity.

Practice Notes – Sourcing Structural

Fasteners and Anchor Bolts

Structural fasteners and anchor bolts typically originate out of China and are supplied to standards with no mandatory conformity requirements (inspection and testing, factory production control system operated by the manufacturer).

The Practice Notes, which are an outcome of an industry working group tasked with establishing good bolt procurement practice, recommend inspections and testing are undertaken by the importer to verify the quality of the structural fasteners and anchor bolts.

SCNZ SUPPORT FOR BUILDING OFFICIALS

SCNZ assists building officials by:

- Delivering presentations to building officials on structural steel compliance matters and industry compliance initiatives
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- Guide to the Sourcing of Compliant Structural
- Structural fastener and anchor bolt practice notes
- New Zealand Steelwork Specification in Compliance with AS/NZS 5131

For more information, visit www.scnz.org.

ABOUT STEEL CONSTRUCTION NEW ZEALAND

Steel Construction New Zealand Inc. (SCNZ) aims to advance the interests of New Zealand's diverse steel construction industry by promoting the benefits of steel solutions in building and infrastructure projects. Members include manufacturers of structural steel and steel products, distributors, structural steel contractors, designers, detailers, galvanisers, and paint and building supply companies. SCNZ provides its members with technical advice on the latest in steel design trends and standards, networking opportunities and a representative voice with key industry and government decision-makers. For more information, including imported steelwork case studies, please visit www.scnz.org.

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Knowledge Flows & Unconscious Bias – Why Smart People Sometimes Make Bad Decisions

By Darryl O'Brien



Darryl O'Brien is Head of Program, Undergraduate Built Environment Programs at CQ University where he lectures in Building Surveying and the Built Environment. Darryl is a current member of the Australian Institute of Building Surveying and is a past QLD/NT Vice president. Prior to joining CQU, Darryl was a Queensland based private certifier and planning consultant involved in a range of building and planning projects. Darryl holds bachelor degrees in both Building Surveying and Building Design and a Master's degree in Environmental Planning. Darryl is a recent PhD graduate, his doctoral research examined how to best optimise building codes in response to ongoing demographic change. Darryl's other research engagement includes ethics and conflict of interest; the identification and management of non-conforming building products; managing demographic change and environmental docility; and the history of building code development."

Introduction

Building surveyors, as with other professionals, are called upon to make complex decisions in order to ensure that their professional responsibilities are discharged in line with both legal obligations and community expectations. It is assumed that professionals will act rationally when making decisions, although these decisions will be bounded – that is they may not have all relevant information, unlimited time or all necessary skills with which to make at times complex decisions (Langevoort, 1997). But regardless of these limitations, decisions still need to be made. Unfortunately, many of these decisions are sub-optimal.

Unfortunately, the limitations inherent in bounded rationality mean that in many cases sub-optimal decisions are made. To date, most of the research with respect to the limitations and subsequent problems associated with bounded rationality have occurred in the financial services industries (Bollen, 2007, Barnett, 2012). However, a number of significant court cases both in Australia and New Zealand and the ongoing ACP cladding crisis demonstrates that the consequences of sub-optimal decision making is a valid concern.

Nonetheless, the breadth of profession affected and the scope of problems suggests that poor decision making may be a result of more than only bounded rationality. Indeed, it could be that a combination of organisation structure and unconscious bias are exacerbating the bounded rationality problem, leading to poor decisions. In this article I will explore both the organisational structures and the types of unconscious bias that can affect the decision making process. In describing

these conditions, it is hoped that better individual and organisational decision making may occur.

Organisation Knowledge Flows

Information in organisations that flows upwards poses challenges for good governance and decision making (Arrow, 1974). This results from a number of interrelated factors. Firstly, often the interests of individuals and organisations are not always aligned (Robbins & Barnwell, 1998), with subordinate workers seeking to maximise their own self-interest at the expense of the organisations.

The reality is front-line staff in organisations are often exposed to data based on actual events that occur in real time. In these situations there may be a tendency to downplay or ignore negative information and over represent positive information to improve perceived integrity with management. In this environment positive information is relayed quickly, negative information more slowly, if at all. This is an example of the moral hazard problem whereby information asymmetry creates an environment that allows incorrect or partial information flows with an overly positive bias. The situational temptation for bias filtering can be further encouraged by the employment frameworks for junior managers that can exist in larger organisations. In organisations where a rapid rotation system is used to expose employees to all facets of the business, the temptation to under, or indeed not, report bad news may exist. The rationale being that if discovered the person may have moved to another department or left the organisation meaning the problem is now the responsibility of someone else.

A final organisation risk exists in firms with multiple vertical hierarchies. As well as bias filtering, information accuracy can be lost by message transmission. This is an example of 'Chinese whispers' whereby multiple repetitions of the same message, but with slight variations, fatally distorts the original message.

For building surveyors, there are implications with these problems in situations where there are multiple hierarchies in the organisation or third parties are used to undertake inspections. In such cases the bias toward providing positive information and the skewing of negative information may mean that the data is less certain than may first appear.

Organisation structures may create an environment where the accuracy of data may be questionable. However, of equal relevance is the fact that our intrinsic cognitive processes are also subject to a range of unconscious biases that can affect optimum decision making. It is to these issues that this article will now turn.

Unconscious Biases and the Decision Making Process

When attempting to process large amounts of information we have a tendency to simplify the data to make it manageable. If we don't do this, it is possible that we may become overwhelmed and unable to make a decision.

Researchers have identified two main types of unconscious cognitive solution strategies – algorithms and heuristics. Algorithms are a process where there is a specified procedure or formulae is used to find a solution. A simple example of an algorithm could be a recipe, and this is a quite effective decision making strategy

for simple problems. Within a building surveying context, the development of an approval checklist would be an example of a simple algorithm. Algorithms will ensure that a solution is found, but as the complexity of the problem increases, so does the time needed to solve the problem. Hence we need other, less time consuming cognitive strategies to solve problems.

The second cognitive strategy, heuristics, are the adapted application of problem solving strategies and processes that have been found to be successful in the past. Although not as certain heuristics are much faster for, as noted by Gleitman (1986, p.275), 'The great majority of problems people face are solved by heuristic procedures rather than by algorithms, for human life is short and human processing capacity is limited.' Although a far quicker decision making strategy, there are however problems with heuristic decision making. Seeking to manage large amounts of data can lead to decision simplification, where courses of action are based on past experiences rather than a considered evaluation of the facts. This is because the brain is not a computer, with files that can store and retrieve large amounts of accurate data: rather selected memories are stored and condensed – but in doing this many details may be omitted. This is why witnesses of crimes may not be able to recall critical details like an assailant's hair colour or the make of a getaway car (McKenzie, 2018).

The heuristic process is directly related to a second cognitive process called schemas. Schemas are created when we draw information from interrelated networks of facts stored in our memories to construct knowledge propositions. It is the inter-networking of these propositions with other related ones that provides meaning. The deeper the networks and the more information recovered from our long-term memories the more potent the perceived understanding applied to the current situation (McInerney & McInerney, 2002). Schemas are constructed to provide logical interpretations to events and include typical understandings of people and events that conform and reinforce similar prior experiences (Langevoort, 1997). These filtered experiences thus become the frame of reference by which new experiences are analysed.

Turning again to a building surveying example, determining the classification of a building relies on a combination of heuristic and schema processes. Our prior experiences and memories of similar building types allows us to make an almost immediate judgement to the appropriate classification for a given building type. Whilst it is true that an algorithm could

achieve the same outcome, the time investment in this strategy would be much greater and thus not an efficient decision making strategy.

However, schemas are subject to unconscious bias and thus may lead to sub-optimal decisions. An example of this can perhaps be illustrated with reference to the *Body Corporate 326421 v Auckland Council* [2015] case (the *Nautilus* case). This was a complex judgement concerning multiple defects in a multi-story residential unit complex. The building was clad in aluminium composite panels that subsequently leaked and it is this aspect of the judgement that I wish to focus on.

A search of the High Court judgement identified the term 'leak' used 11 times, 'weather' (or a derivative such as weathertightness) used 25 times and 'water' (or a derivative such as watertight) used over 150 times. This is perhaps not unreasonable given the relatively recent New Zealand 'leaky building crisis' that affected a significant number of residential buildings from the late 1980's. But this focus on weatherproofing also illustrates the unconscious bias of schema mapping, where the examination of the issues (*Nautilus* defects) were filtered through a frame of reference reflecting similar prior experiences (leaky buildings). This form of schema mapping can take the form of what is termed 'microscopic vision', where only a very specific aspect of an issue is examined, rather than the broader perspective (Newton and Schmidt, 2004).

However, in a post Grenfell environment we know that combustibility is a major concern with some types of ACP cladding and indeed this is now the focus of regulatory attention (see for example the Australian Building Ministers Forum). However, the *Nautilus* case hearing was between August and September 2014 and thus preceded the Grenfell (and earlier Docklands, Melbourne) fires. The bias of schema toward waterproofing and not fire can perhaps be illustrated by the fact that a review of the judgement identified that the term fire was used twice, but not with respect to the cladding and the terms combustible or flammable were not identified at all. It would be imagined in a post Grenfell environment where the risks posed by combustible ACP cladding are more widely known, these risks would have entered the schema. It should be noted that these comments are not intended as a criticism of the Judgement, but rather to demonstrate the possible effects of schema on the decision making process.

Another demonstration of schema relates to our intrinsic cognitive processing limits. In this situation there is an unconscious

resistance to revise existing schemas to process new, contrary information. Rather, the tendency is to filter the new information so as to conform to existing belief structures that conforms to previously held beliefs and ignore information that conflicts with these schema (Lord, et al., 1979). This is a process referred to as confirmation bias and is the sub-optimal expression of schemata as applied to the decision making process.

Friedrich (1993, p.298.) defined confirmation bias as 'an apparent tendency for people to formulate and test predictions by seeking information that is likely to confirm expectations or desired beliefs rather than by collecting potentially disconfirming evidence.' In other literature (see for example Kahan, 2013) this phenomenon is described as motivated reasoning, a cognate process where we generate arguments for conclusions we want to support.

Regardless of the label used, confirmation bias is potentially detrimental to the decision making process and thus organisation effectiveness. With confirmation bias a number of unconscious actions may function, including: only seeking out information that supports the favoured position, being overly critical of evidence that conflicts with the favoured position and where evidence is ambiguous the interpretation supports the favoured position. In making a decision, information is filter through previous similar situations that led to positive outcomes, creating and reinforcing these schema as the optimal course of action. This behavior leads to a false sense of optimism where negative or contrary information that does not align with this schema is dismissed or rationalized away as not being important or relevant to the situation (Langevoort, 1997).

Finally, it is important to recognize also that although confirmation bias is an intrinsic, cognitive function it can occur in group settings with the same biases affecting decision making. Consideration of group dynamics strongly suggest that dominant coalitions can develop and to maintain cohesiveness, pressure for dissenting voices to remain silent may exist (Langevoort, 1997). In such a setting a dissenting individual may question if they are the only person with concerns and whether these concerns even valid or relevant. These factors lead to a phenomenon known as groupthink, where cohesive groups lose the ability of critical evaluation (Bailey et al. 1991).

What is to be done?

This short paper has argued that a combination of organisational structure and unconscious bias can create an environment where competent people and organisations can make poor decisions. But what can be done to improve this situation?

At an organizational level, processes must be created to prevent information distortion. As senior managers in a vertical hierarchy are removed from the people making decisions at a project level, an effective monitoring and auditing system should be created. Senior managers must invest time into jobs at the project level. Subordinate staff must be encouraged to present all relevant information in a timely manner and avoid skew and bias in reports.

With respect to confirmation bias firstly recognize and understand that this exists, and that it operates at an unconscious level. Keep an open mind and don't jump to conclusions, acquaint yourself with all relevant facts. You should seek other council from your peers but avoid groupthink and consider scenarios designed to test your theory, not biased data to support your opinion.

Lastly remember that we are all subject to confirmation bias to varying degrees when making decisions. The important point is to recognize the unconscious tendency to weigh facts selectively and always attempt to assess facts in an unbiased way. In this way we may identify risks that we previously overlooked, or that others had convinced us to overlook.

References

Arrow, K. (1974). *The Limits of Organisation*. Norton, USA.
 Australian Government. Department of Industry, Innovation and Science. (2018). Building Ministers Forum 10 August 2018 Communique. Available from: <https://www.industry.gov.au/data-and-publications/building-ministers-forum-communiques>
 Bailey, J., Schermerhorn, J., Hunt, J., Osborn, R. (1991). *Managing Organisational Behaviour* (2nd Edition). John Wiley & Sons, Australia.
 Barnett, J. (2012). Intermediaries Revisited: Is Efficient Certification Consistent with Profit Maximisation. *The Journal of Corporation Law*. Volume 37, No. 3.
 Bollen, R. (2007). Market failure and financial services – a case study of bounded rationality in the market for superannuation products. *Macquarie Journal of Business Law*, Vol. 4
 Friedrich, J. (1993). Primary error detection and minimization (PEDMIN) strategies

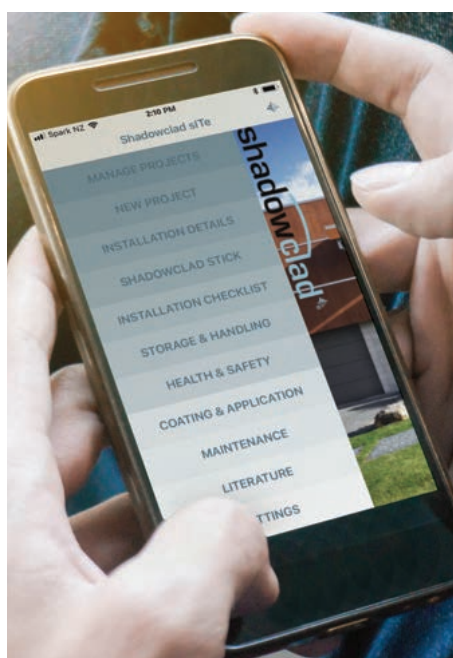
in social cognition: A reinterpretation of confirmation bias phenomena. *Psychological Review*, Volume 100. No.2.
 Gleitman, H. (1986). *Psychology* (2nd Edition). W.W. Norton & Company, New York.
 Kahan, D. (2013) Ideology, motivated reasoning, and cognitive reflection. *Judgement and Decision Making*, Vol. 8, No. 4.
 Langevoort, D. (1997). *Organized Illusions: A Behavioural Theory of Why Corporations Mislead Stock Market Investors (And Cause other Social Harms)*. University of Pennsylvania Law review, Volume 146.
 Lord, C., Ross, L., Lepper, M. (1979). Biased assimilation and attitude polarization: The effects of prior theories on subsequently considered evidence. *Journal of Personality and Social Psychology*, 37(11), 2098-2109.
 McInerney, D., McInerney, M. (2002). *Educational Psychology – Constructing Learning* (3rd Edition). Prentice Hall, NSW.
 McKenzie, R. (2018). A stumble Down Memory Lane. *Wall Street Journal*. Accessed 26 September 2018. Available from <https://outline.com/AYAcPG>
 Newton, L., Schmidt, D. (2004). *Wake-Up Calls: Classic Cases in Business Ethics* (2nd Edition). Thompson South Western. Canada.
 Robbins, S., Barnwell, N., (1998). *Organisation Theory – Concepts and Cases* (3rd Edition) Prentice Hall, Australia



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If you snooze, you lose – Prosecuting under the Building Act

By Nathan Speir



The moment a council officer notices something wrong at a building site, the clock begins ticking on a prosecution.

A council gets just six months to prosecute under the Building Act. Once you know (or should know) about non-compliant building work, time starts to run for filing charging documents in Court.

Running out of time is one of the most common problems we see when helping councils with the decision to prosecute. Unfortunately, “who knew what and when” is often the beginning of the end for a council wanting to take enforcement action.

Six months is not a lot of time when you think about what needs to be done. Council officers have to identify the problem, document it clearly, consider other options (like a notice to fix), seek legal advice, consider delegations

and prepare charging documents. Building Act prosecutions can be a minefield without good systems and specialist help. When does the clock start ticking?

When a building inspector is on a building site and thinks “this is bad”, that counts as actual knowledge and the clock has started. If an ordinary person would say “this can’t have been overlooked, how could it have been missed?” that is constructive knowledge and again time has started to run.

Building Control Officers are busy people and wear many hats. It would be great if prosecutions weren’t necessary but unfortunately builders continue to cut corners and the public expects councils to clean up the mess.

Appropriate enforcement action can avoid litigation for councils and save a lot of money and anguish.

We have seen it work and we have also seen the consequences of inaction. Your biggest problem is time but fortunately it is the easiest one to solve.

Rice Speir tips for dealing with limitation The key to avoiding limitation issues is to be proactive. If a building issue concerns you then you should start thinking about

enforcement and speak with your team. Not every case needs to be prosecuted but they are all subject to the six month limitation period. Setting an electronic calendar reminder is a fantastic way to prevent time from easily slipping away.

Ask questions and speak with colleagues. The more you talk about serious building issues the easier it will be to stay within the time limit.

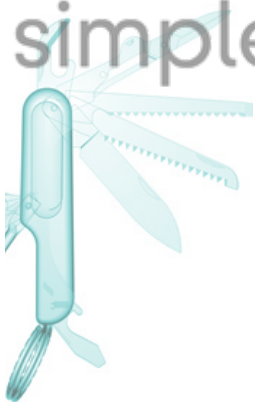
There is a fall-back option. There is no time pressure for issuing a notice to fix. By doing so, even after six months has expired, you preserve the ability to file a charging document for failing to comply with the notice to fix.

Finally, we enjoy taking phone calls from you with tricky issues and decisions needing to be made under pressure so keep them coming.



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RICE
SPEIR



Helen Rice, Managing Partner

Q: Can groups of RSE workers living together constitute a single household for the purposes of the Building Act 2004? From Heath Cotter, Hastings District Council

A: This question is important because the answer will have a direct bearing on a classification under the Building Code of the particular building accommodating the RSE workers. In particular it will determine whether or not the building qualifies as a “detached dwelling”. Of course, the classification that applies will in turn affect the performance criteria that must be achieved in relation to the relevant building.

In the context of RSE accommodation there are factors weighing both for and against the conclusion that a particular group constitutes single household. To some extent, the answer to this question will differ depending on the particular circumstances. There are some factors that are relevant to most examples of RSE accommodation, however. We identify these below.

For: the occupants are likely to know each other, often hailing from the same village; workers tend to eat together commute to work together, and even socialise together; and there is a relatively high degree of social cohesion amongst occupants.

Against: occupant capacity in RSE accommodation is generally maximised with numbers often totaling ten or more – generally the greater the number of occupants, the weaker the social cohesion amongst them; RSE accommodation is by definition temporary as the workers are only able to stay in the country for a set period of each year; the tenancy agreements in respect of RSE accommodation are between the building owner and the RSE employer – the accommodation is generally fully furnished and the occupants do not pay for such costs as utilities; and RSE workers do not usually have any say in the type or location of their accommodation and their behaviour during their occupation is usually governed by a code of conduct.

MBIE is in fact currently considering a determination on this very issue which we were directly involved with, so watch this space. Please send your questions to helen@ricespeir.co.nz or nathan@ricespeir.co.nz

Designing our way to healthier and safe lives

The early stages of a concept is the best time to consider health and safety. Healthy and Safe design is about using a systematic process to identify hazards early in the design process and providing creative and innovative solutions.

It is the concept of applying methods to minimize occupational hazards and to “design out” health and safety risks early in the design process. An emphasis on optimizing employee health and safety throughout the life cycle.

This method for reducing workplace safety risks, lessens workers’ reliance on personal protective equipment. (The least effective of the hierarchy of hazard control)

The Health and Safety at Work Act 2015 places duties on PCBUs who design plant, substances or structures. A designer must, so far as is reasonably practicable, ensure that the plant, substance, or structure is designed without risks to the health and safety of persons.

The designer must also carry out, or arrange the carrying out of any calculations, testing, or examination and provide adequate information, including results, to ensure that the plant, substance, or structure is without risks to health and safety.

Innovators and entrepreneurs have been pioneering safety by design for centuries already. But taking a house design, and looking at how it will be maintained, to a piece of kit.

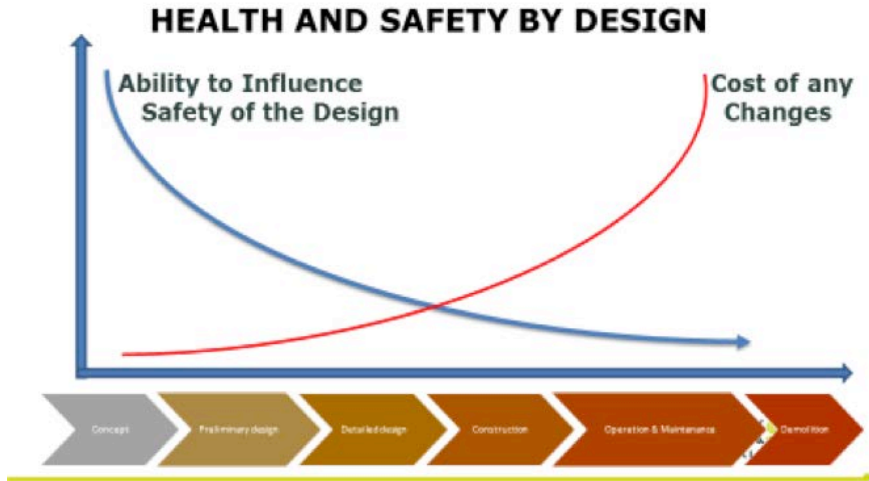
WorkSafe NZ has recently published a new Good Practice Guideline called Health and Safety by Design.

Question- proposition

Have you ever looked at a building and asked yourself “Why did they design and build that building that way and not think of how they were going to maintain it” or “why did they make that power saw and not think about how the dust was going to be removed from the machine”. The answer is likely that no one ever thought about how the building would be maintained or how the power saw would be used. New guidance is available to help provide a healthy and safer outcome.

What do we know?

We know that it is in the early stages of the concept - design - detail stage that designers are in the best position to make work healthy and safe. By working through a process from the start, designers can influence the outcome from conception to end of use. By following a systematic process, a healthier and safer as well as more productive outcome can be achieved.



The Health and Safety at Work Act 2015

Section 39 places duties on PCBUs who design plant, substances or structures

- (1) This section applies to a PCBU (a designer) who conducts a business or undertaking that designs— plant or a substance or a structure that is to be used, or could reasonably be expected to be used, as or at a workplace.
- (2) The designer must, so far as is reasonably practicable, ensure that the plant, substance, or structure is designed to be without risks to the health and safety of persons. The designer must carry out, or arrange the carrying out of, any calculations, analysis, testing, or examination that may be necessary for the performance of the duty.
- (4) The designer must provide adequate information including the results of any calculations, analysis, testing, or examination

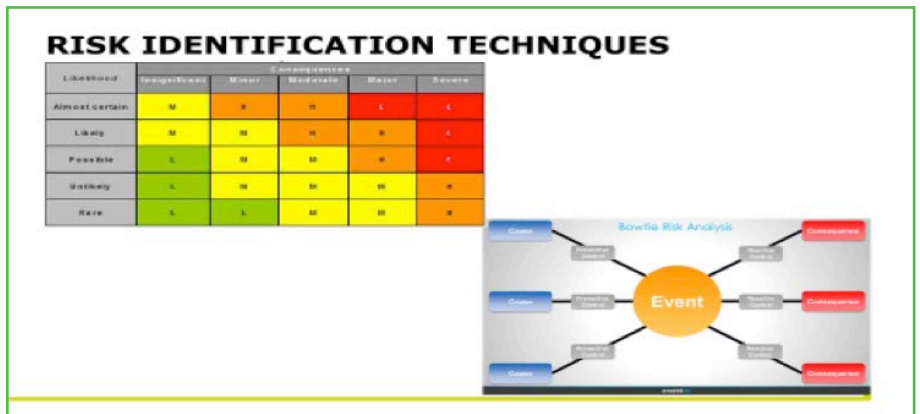
referred to in subsection (3), to ensure that the plant, substance, or structure is without risks to health and safety.

What is Health and Safety by Design?

Healthy and Safe design is about the team working together using a systematic process to identify hazards early in the design process and providing creative and innovative solutions.

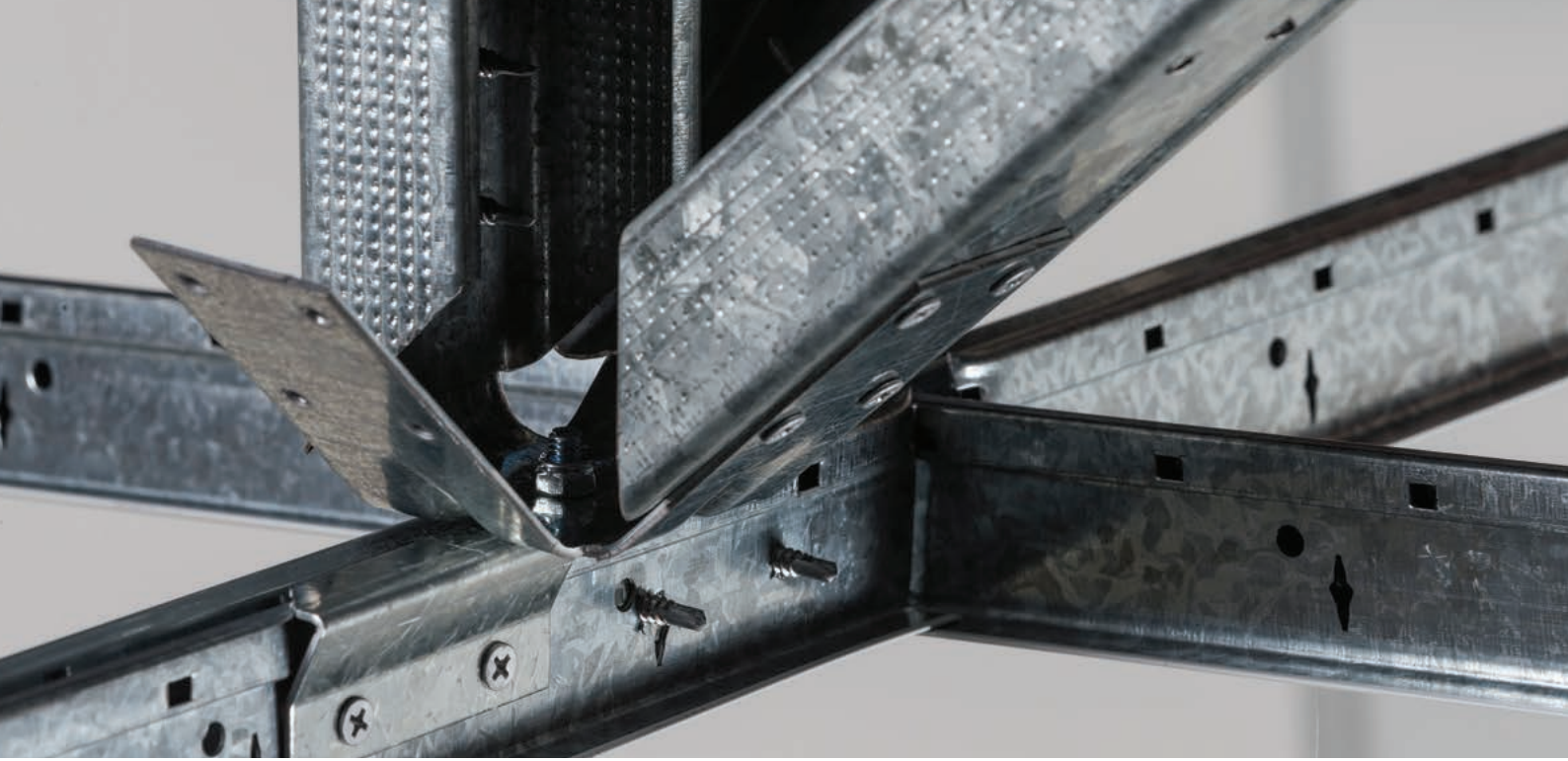
It is the concept of applying methods to minimize occupational hazards and to “design out” health and safety risks early in the design process. An emphasis on optimizing employee health and safety throughout the life cycle.

This method for reducing workplace safety risks, lessens workers’ reliance on personal protective equipment. (The least effective of the hierarchy of hazard control)



To improve health and safety outcomes in New Zealand WorkSafe want to see improvements in the way plant substance and structures are designed and implemented. If you are involved in design and implementation of plant substances or structures then information is available on the WorkSafe NZ website [Health and Safety by Design: an introduction](#)

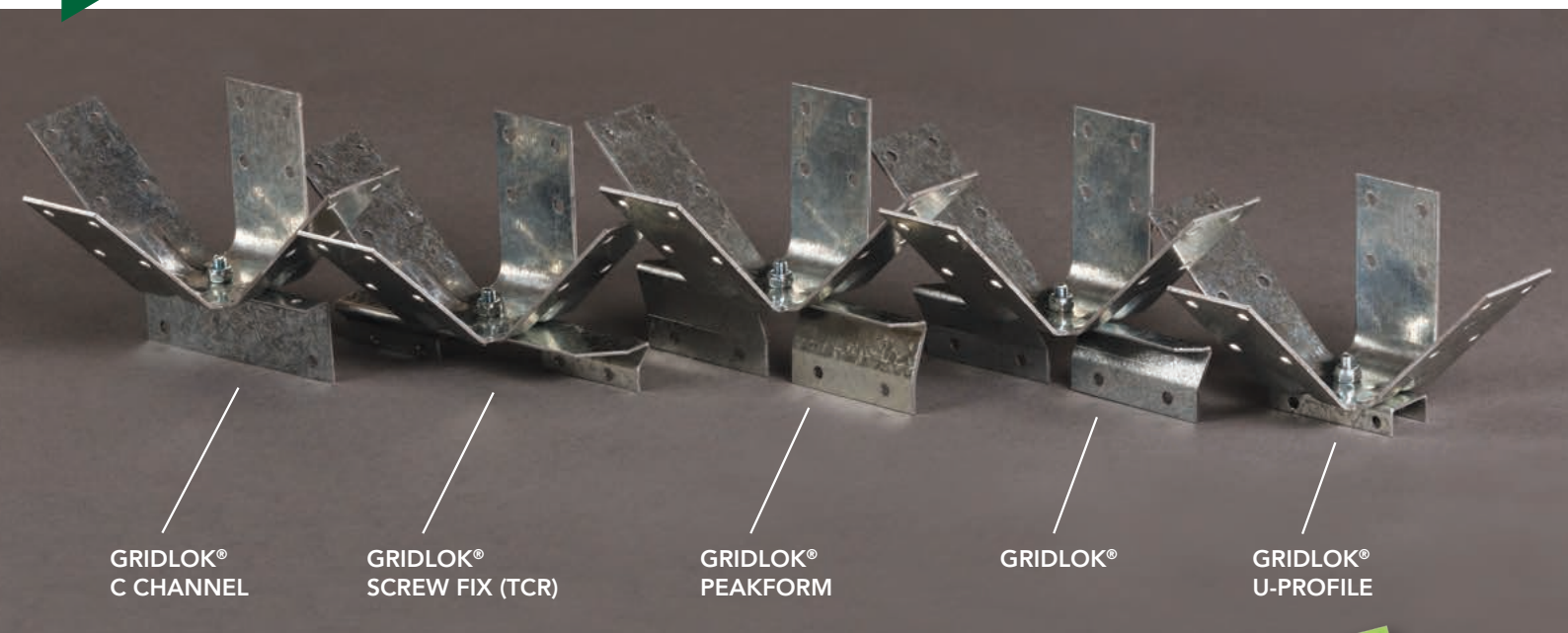
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Spotlight on a Member


Name:

Ian Chamberlain

Official job title:

Director and Operator of Chamberlain Carpentry & Joinery

Region:

Waikato and Bay of Plenty

Ian Chamberlain spends a lot of his spare time volunteering, helping run and work on events from firework nights to the Half Iron Man, Iron Man, river swim, the Cycle Challenge and more. He used to be a white water kayaker – nowadays he's happy paddling down the river or surfing a play wave and rock climbing. Ian is also heavily involved with Taupo Pathways – which aims to get all young people under 25 engaged in education, training, work or positive activities leading to meaningful employment in the Taupō District.

What was your first full-time job?

In the early 1980s I was a buffet assistant at Gatwick Airport whilst waiting to start my government training scheme. A few years later I ended up back at the airport doing fitout contracts.

How did you get into the industry?

I joined a government training scheme in the UK when I was 17. The first 12 weeks were spent learning carpentry, joinery, wood machinery, bricklaying, painting and decorating. For the rest of the year we followed the field we'd chosen, mine was carpentry and joinery, and we ended the year with work experience with a company. I then ended up doing the rest of my

apprenticeship with the same company. This first year was credited as my first year City and Guilds apprenticeship.

What do you think has changed about the industry since you first started working in it?

We've finally gone to double glazing and new cavity systems in NZ, but we still have a long way to go to catch up with European standards and the building standards I first learned in the early 80s in the UK.

What does the future of building control look like to you?

I hope that the LBP scheme brings in a construction licence, so every building company will require one which is backed up by liabilities and guarantees so that certain items in the building process can be signed off by the building company and reduces the liabilities back onto local authorities.

What is the most interesting part of your job?

Helping educate customers around their build and helping them get a better product for how they will use the building. Eg. this could be from installing better quality windows to thicker walls to how they will maintain their building going forward and allowing for the ongoing costs on this. If you spend \$750k on a car, would you wash it and would you service it? Of course you would. You should look after your house the same way.

What do you consider to be the biggest challenge in your role?

Juggling things to make sure sub trades turn up and perform to their best ability and for suppliers supplying good quality products and the branded full system components to install them correctly, rather than offering generic alternatives only. Also, checking the manufacturers literature from the last time you installed their product – sometimes only a few weeks previously.

What do you think is different about the Taupō versus other regions?

We're very lucky in our region that the local authorities invested in its building team over a number of years and our consent times and inspection times are very good compared to most other areas around the country. I just hope they keep up the good work and invest in their staff.

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BOINZ Accredited Building Surveyors, a valuable additional resource to BCA's.

With the Institute being the peak body representing the building surveying discipline it should not be overlooked that not all its members who carry out building surveying work in Councils or Private BCA's. The Institute's Accredited members who undertake pre-purchase property inspection are also capable of carrying out additional building surveying reports within the local government environment.

Accreditation is defined "as the act of granting credit or recognition, especially with respect to education and skill" and those members who have undertaken the Accredited Building Surveyors Programme have undergone rigorous training and report auditing to achieve their status. Accredited Members can be accredited to 3 levels:

- Level 1 - Accreditation to carry out residential property inspections in accordance with NZS 4306 Residential Property Inspections.
- Level 2 – Accreditation to carry out specialist reports as listed in NZS4306 or other specialist reports as determined by the ABS Panel with

evidence of additional specialist training.

- Level 3 – Accreditation to carry out building surveying work for any building type, with a qualification of Diploma of Building Surveying or equivalent.

To be accepted into the Accreditation programme evidence of relevant technical qualifications such as Trade Certificate/ National Certificate in Carpentry is required along with a CV detailing experience within the building sector.

Between all our ABS members there are decades of experience within the New Zealand built environment, and you should recognise that they are a valuable resource.

To be approved for accreditation the ABS members must also provide proof of professional Indemnity Insurance and undergo a police check and once accredited an annual auditing regime then takes place including a report review for each level of accreditation gained. An updated police check, and proof of insurance are also required as are details

of any legal action taken against their company over the previous 12 months. The completion of an annual CPD plan with a minimum of 20 points is required to retain one's Accreditation.

At BOINZ, we see many examples of 'builders' reports, which as you would expect vary widely in quality. We observe the writers of these reports are not at all familiar with tell-tale signs of weathertightness problems and more often than not do not process the skills of observation and the required to provide clear and precise reports.

Councils who use the services of an accredited member can and do so with confidence, knowing that the individual has passed and then continues to maintain the Institute's stringent assessment process, and therefore can have trust in knowing that their reports are consistent and to a high standard.

Contact details for BOINZ Accredited Building Surveyors can be found on the Institutes website, or you can call the National office on 04 473 6001



MEDIUM-DENSITY HOUSING



BUILDING HIGH-QUALITY, AFFORDABLE MEDIUM-DENSITY HOUSING

The Medium-Density Housing (MDH) web resource is a one-stop-shop on how to achieve good MDH for New Zealanders.

It provides information and insights that can be used for developments, designs and builds, and features an extensive collection of resources, research reports, district plans and case studies.

By bringing together MDH knowledge and research from local and international sources, the site provides guidance and good practice on MDH project development, design and construction processes.

No need to search for information on MDH – it's all here in one place - www.mdh.org.nz

The Four Pillars to Building Vitality

By Lucinda Curran



The way that our buildings impact on our health has been a fascination of mine for over a decade. As my studies, work, and training all merge together, I am focused on how we can build vitality. At every step of the way, we make decisions about our buildings, and each one of these have a ripple effect.

To explain these, I have created a framework to understand this and illuminate the path forwards. I have called this: The Four Pillars to Building Vitality. The first pillar is the Health of the Building, which is determined by design and materials choices. Next is the Health of the Industry, which is impacted by so many factors – and we will talk more about this one in a moment. The third is the Health of the Occupants and the final pillar is the Health of the Planet. I see the interrelationship between all of these

pillars, and my vision is that by working together across industries, we can improve all of these, and ultimately build vitality globally.

I want to focus here on the second pillar, the Health of the Industry. Research reveals alarming trends:

- There is a disproportionate percentage of suicides in the manual labour industry (King, et al., 2018);
- Mental health factors are decreasing productivity and increasing accident rates (Lim, et al., 2017);
- There are exposures to a vast range of hazards (Jazari, et al., 2018); and
- There are known links to adverse health outcomes from the use of asbestos-related products, treated woods, and so on.

It is this interplay between environmental stressors and the health of the building industry that I will examine further. At the 2019 BOINZ Conference, we will deconstruct the contributing factors in order to create a framework for building the vitality of the workers in this important industry. Every person in the building industry plays a vital role and we need to put processes in place to not only protect ever person, but also to support their wellbeing.

BUT I NEED YOUR HELP...

I need to gather data on practices, attitudes and health of people in the building industry.

Can you spare a few minutes to share your thoughts, opinions and experiences? If you are able to assist me by completing an anonymous short online survey, I would greatly appreciate it. Please complete the survey here: <https://ecohealthsolutions.com.au/building-industry/> You may also be interested in providing information that is more in-depth, if so please let me know and we can schedule an interview.

Author Lucinda Curran is an experienced Building Biologist and CEO of Eco Health Solutions Pty Ltd. With a background in health sciences and education, she has a thorough understanding of ways in which homes and workplaces can adversely affect overall health and vitality. Her own illness due to environmental factors is the catalyst for her supporting others in identifying and finding solutions for making healthy living choices. With a passion to make the world a safer place, Lucinda finds great joy in empowering her clients to make positive changes that enhance their wellbeing.



HomeFit – a new initiative launched to improve Kiwi homes

A new tool which enables anyone to assess the quality of their existing home has been launched by the New Zealand Green Building Council (NZGBC). The New Zealand Green Building Council is a not-for-profit organisation, working to make sure that all New Zealanders are safe, healthy and happy at home, at work, wherever they are, because better buildings mean healthier, happier Kiwis.

NZGBC's aim is driving adoption and use of the tool to improve New Zealand's housing stock – an initiative that aligns with the BOINZ's own aspirations, captured in our vision, of 'Improving the Quality and Performance of the built environment'.

This alignment in quality outcomes and acknowledgment of the credibility BOINZ membership carries is further evident in the NZGBC recognising BOINZ membership in making it a pre-qualification for those wanting to become HomeFit assessors.

The HomeFit tool is promoted to enable Kiwis to check any existing home to see if it is warm, safe and dry. HomeFit works in two ways;

- Firstly, there's a free online check which all Kiwis can use to examine their own home, or a home they're looking to buy, sell or rent. The online check is available at homefit.org.nz and contains around 20 questions before providing a tailored report on the home, detailing how warm, safe, efficient and dry it is. And, if it isn't, how to improve it.

- Secondly, there's an independent appraisal, carried out by a trained assessor. The assessment looks at damp, mould, insulation, heating, ventilation and other key areas. If a home passes, it is awarded a HomeFit stamp, proving that it is warm, dry, safe and efficient.

Around half of New Zealand homes have visible mould, half of New Zealand adults say they live in a cold house, and over 60 percent of Kiwis say their homes need repairs. Cold and damp New Zealand houses have been linked to asthma, rheumatic fever and respiratory infections.

HomeFit was developed as the general public don't always know what to look for to determine whether homes in fact live up to standard warm, dry, safe, and efficient conditions that avoid exposing its occupants to high health risk living environments. HomeFit will also raise greater awareness of what to look for, and which suitably qualified professionals to engage when seeking expert advice.

Those involved in the maintenance and operation of homes, as well as those who supply building materials are getting behind the HomeFit assessment tool. From estate agents and landlords, to house builders, tradies and property managers, the use of HomeFit as a guide will help advance the quality of New Zealand's housing stock.

An opportunity for the Building Surveying

profession to support the outcomes of the HomeFit tool also exists, which should be of interest to the Institute's Accredited Members as well as its building control focused membership.

BOINZ Accredited Building Surveyors Programme members may want to raise awareness of or use the tool as part of pre-purchase property inspection reports. Further opportunities may also present to ABS members in becoming assessors – NZGBC is interested in hearing from those who want to apply to become HomeFit assessors. The appraisal system is a powerful independent demonstration that a building meets health and warmth standards, giving potential tenants or buyers confidence in their decision-making.

For BOINZ's bulk membership engaged in building control, the awareness the HomeFit tool raises around improving the quality of NZ's housing stock could be supported by BCAs in their interactions with the tool's target audience. Through the Eco Design Advisor service which some BCAs support, or equally under a BCA's own stakeholder engagement processes, the building regulatory requirements should be brought to attention where improvements to existing housing stock are to be made. Providing information on building consent exempt work or equally highlighting where building consent may be required, as well as what requires input from LBPs for restricted building work.

Given NZGBC recognises BOINZ membership as a pre-qualification, all BOINZ members therefore need to do to become HomeFit assessors is attend a webinar training session and pass an exam.

While HomeFit is specifically targeted at assessing existing homes, NZGBC provides other tools to promote improvements to NZ's housing stock including Homestar for new homes and GreenStar for other new and existing buildings. More about NZGBC initiatives can be found on their website <https://www.nzgbc.org.nz/>, learn more about the HomeFit initiative by checking out www.homefit.org.nz, take a look at the Eco Design Advisor website <https://ecodesignadvisor.org.nz/>, or for requirements to attain the HomeFit assessor qualification visit <https://www.nzgbc.org.nz/homefitcourses>.





Marked Compliance

Rob Campion
Technical Manager, Window & Glass Association NZ

Rob is the Technical Manager for the Window & Glass Association of New Zealand. He has better than 30 years in the window industry, primarily in technical, design, testing and project management roles. Prior to taking up his current role he'd served on the WANZ technical committee for almost 20 years and represented the industry as a member of the E2/AS1 working groups.

As consumers, almost every product we invest our cold hard earnings into is branded. The screen I'm looking at whilst I write this has 'Samsung' proudly emblazoned front and centre. If I turn to my left my 'Brother' printer goes a couple of steps further with a model number in the upper left and an 'Energy Star' logo in the bottom right, just so I know someone has rated its performance and I can go about my business with a warm fuzzy feeling I'm not wasting precious resource. And don't even get me started on my car...

Thankfully, the building industry and our homes have not, yet, grasped the concept of outwardly branding its components. However, the labelling and marking of our windows, doors and glazing is a requirement of our Building Code and checking that your windows and doors have all the right markings is an important part of demonstrating compliance.

WINDOWS AND DOORS.



E2/VM1 requires that window and door units be tested and demonstrate compliance with NZS4211, to an appropriate wind zone, and NZS4211 requires that windows be labelled to reflect this compliance.

Members of the Window & Glass Association use this format for their labeling, which indicates not only the brand of the manufacturer and the member logo, but more importantly, the tested performance of the product it's attached to, including;

1. The version of NZS4211 that has been used to test, in this case NZS4211:2008,
2. The wind Zone tested to, in this case H referring to High, and
3. The Air Infiltration rating, in this case AC which refers to products with a rating suitable for air conditioned spaces.

As noted, all windows and doors are required to have these labels but because we're not, yet, ready to display them in plain sight, they tend to be placed more discreetly. But there are standard locations;

WINDOWS.

Each window that includes an opening sash, will have a label located on the left-hand jamb of the sash, immediately below the stay. For fixed windows, with no openings, the label will be located on the top right-hand corner of the frame, when viewed from the inside of the building.

DOORS.

Each hinged and/or bifolding door will have a label located immediately above the top hinge. Sliding doors, and windows, will have the label located on the edge, at the top, of the lead stile.



Windows, Doors, Glass & Glazing.



GLASS AND GLAZING.

In many cases your glass must also be labelled, or marked, to demonstrate compliance. However, with glass rather than an adhesive label, the markings must be permanent.

Safety Glass Clause 7.3 from B1/AS1 refers to NZS4223.3:2016 the Standard covering the "Human impact safety requirements" for Glazing in Buildings, in its entirety. And clause 2.8.2 in the Standard refers to the "Marking requirements" for each pane of safety glass used in our buildings and states that the marking must include as a minimum;

- The name or registered trademark of the manufacturer or supplier. Here this is the "Tempafloat" reference.
- The type of safety glass. Here the "TA" represents Toughened grade A safety glass.
- The Standard to which the glass has been manufactured and tested. Here it is AS/NZS2208.
- The license or ID number of the third-party certifier. Here it's No. 2625.

Clause 2.8.1 of the Standard states that the marking must be on each pane, legible, permanent and visible after glazing. So, if your glass does not display a marking similar to this one, then it is not safety glass and does not comply with the Building Code...

Of course, these requirements apply to not only windows and doors but also, very importantly, to glass balustrades and barriers protecting a fall.



IGU'S.

Insulated Glass Units, or your double or triple glazing must also be marked not only for safety but also for durability compliance. Clause 3.5.2 from B2/AS1 refers to NZS4223.2:2016, states that IGU's shall be permanently and clearly marked and as a minimum shall include;

- The name or trademark of the manufacturer or supplier. Here this is 'Metro'.
- The date of manufacture, using the year as a minimum. Here '17' obviously refers to 2017.
- Compliance with NZS4223.2:2016, which is clearly written above.

This example shows the marking printed on the spacer bar, between the two panes of glass, but it can be printed on to the glass itself, the printing must simply be legible, permanent and visible after glazing.

So, to clarify;

1. Monolithic safety glass must be marked in accordance with clause 7.3 from B1/AS1
2. IGU's not used as safety glass only need to be marked in accordance with clause 3.5.2 from B2/AS1.
3. IGU's used as safety glass must both be marked in accordance with clause 7.3 from B1/AS1 and be marked in accordance with clause 3.5.2 from B2/AS1.

Ok, so maybe the labelling and marking discussed here is not quite like the 'branding' I opened the article with. Branding is typically about promotion, in an effort to create desire and potentially future sales. Yes, there is a level of branding included in the markings and labels described here, but the promotion in this instance is about compliance, traceability, and confidence. Something we all look for in our building products...

If you have any questions regarding the above, please do not hesitate to contact the Window and Glass Association.

PrefabNZ Top Five for BOINZ

1. COLAB 2019 – SKILLS AND MICRO-CREDENTIALS

CoLab is a fun thought-provoking three-day event filled with site visits, presentations plus a members only morning.

At a Ministerial and official level, 'Skills' is the word on everyone's lips. So at CoLab 2019, Warwick Quinn, head of BCITO (the carpentry and trades ITO), will be presenting work they are doing alongside Competenz (the manufacturing ITO) CEO Fiona Kingsford to see if micro-credentials are the best way to prepare for a prefabricated future --you can be part of the conversation.

Prof. James Murray-Parkes has a new book to launch at CoLab 2019 called 'How to design a structure'. Based on a breakdown of 320 of the 1170 projects he has designed over the last six years, including international stadiums, skyscrapers and prefabricated structures. PrefabNZ's CoLab will be hosting an interactive workshop, in which James provides an overview of the book and is bound to be as fun and informative as ever. Go to www.prefabnz.com/events for more info



5. THE MODULAR DESIGN HANDBOOK

Handbook for the Design of Modular Structures Published by Monash University The Modular Construction Codes Board (MCCB) was founded by Prof. James Murray-Parkes and Dr Yu Bai from Monash University in Melbourne, Australia, in early 2013. Prof. Murray-Parkes cited the lack of cohesion and availability in technical references as the key drivers for this project, as he struggled to find adequate support material to reference modern forms of construction design. Monash University's support was instrumental in gaining momentum

2. SNUG

A 16-page Selections book dedicated to PrefabNZ SNUG designs. These complementary dwellings are located in the back garden, 65m2 or smaller, designed to be made offsite, under controlled manufacturing conditions, before being transported to a site, either whole or in pieces for assembly. Keep an eye out for the magazine landing at your New World, Countdown, Paper Plus and Relay stores



3. PREFABNZ INNOVATION BITES WEBINAR SERIES – ILLUMINATING WHAT YOU WANT AS A FULL MEAL

Inspiration through conversation has lead Innovation Bites webinar series mantra. With a whooping 15 webinars under its belt, the following year is set to be a boomer. Every fortnight at lunch-time, Innovation Bites brings you an entree of condense rich information, from insurance and automation, to intellectual property and KiwiBuild in easy-to-digest 45-minute sessions. Replays of all of the Innovation Bites series can be watched from our YouTube channel, go to Youtube.com and search for PrefabNZ!



4. HOUSING AND URBAN DEVELOPMENT

It's official, the new Ministry of Housing and Urban Development (HUD) began on Monday 1 October. This new Ministry is the Government's lead advisor on housing and urban development to deliver on government goals to:

- Address homelessness
- Increase public and private housing supply
- Make existing homes warmer and healthier
- Make housing affordable for people to rent and buy
- Support quality urban development and thriving communities.
- The new Ministry has a strong housing focus, pulling in housing policy, funding and regulatory functions from MBIE, MSD and Treasury from 1 October, including:
- MBIE's housing and urban policy functions, the KiwiBuild Unit and the Community Housing Regulatory Authority.
- MSD's policy for emergency, transitional, public housing and aspects of private housing subsidies, and the provider-facing purchaser role for emergency, transitional and public housing.
- Treasury's monitoring of Housing New Zealand and Tāmaki Redevelopment Company.
- Once the urban development area of the Ministry is fully operational HUD will:
- Lead a comprehensive housing strategy for New Zealand, working closely with iwi, the housing and urban development sector, the social sector, central and local government and communities.
- Give strategic, connected advice across the housing system, from addressing homelessness to developing affordable, healthy housing that meets the needs of a changing population.
- Drive urban development strategies to create the spaces, infrastructure and services that thriving communities need.
- Drive collective accountability, leading a board of government chief executives to deliver the Government's housing and urban development priorities.
- Be strongly evidence-based, developing better data and analysis to track progress and drive strategies.

Tying up loose ends – development in the law post Lee

By Frana Divich, Partner, Heaney & Partners



At the end of 2016 the Supreme Court in a case called Lee held that homeowners who had applied for assessors' reports stopped the clock running for limitation purposes, not just for proceedings in the Weathertight Homes Tribunal, but also for actions commenced in the courts. The Supreme Court's judgment left open the question of whether defendants, such as councils, involved in court proceedings with a homeowner who had a valid assessor's report, could take advantage of the same "stopped clock" to join designing and building parties to claims. Since Lee was decided we have advocated that our client councils could rely upon the same provision to join parties, citing a case called Kells. It is always nice to be proven right and we are pleased to advise that the High Court in a recent case called Heaney held that Auckland Council had the benefit of the same "stopped clock" as the homeowners when it came to joining parties.

In the Supreme Court the dispute was between the homeowner and the council. The issue in Heaney was whether claims for contribution between the council and other design and build parties could survive when they had been brought more than ten years after the work had been done but where the homeowner had applied for an assessor's report within that ten year period. The builder in Heaney applied to have the claim against it struck out or for judgment to be entered for it, based on limitation. The High Court dismissed the builder's application.

At the heart of the matter was the interpretation of s 37(1) of the Weathertight Homes Resolution Services Act 2006 (the Act) in light of the purpose of the legislation as articulated in Lee. One of the key purposes of the Act is the promotion of speedy, flexible and cost effective procedures for the assessment and resolution of claims. The Supreme Court stressed that this included avoiding narrow and arbitrary legal technicalities that might inhibit the resolution of claims. The High Court emphasised that the joining of additional parties, whether by the homeowners or the council, can be very much to the benefit of the homeowner in the resolution of their claim. It is always helpful to have everyone around the table when liability is being carved up.

We anticipate that there are some other loose ends from Lee that will need to be tied up by the judiciary at some stage. One issue that is

brewing is the scenario of a residential building that has a mixture of weathertight and non weathertight defects and an assessor's report that stops the clock for the weathertightness defects. Can the homeowner use the "stopped clock" weathertightness defects to piggy back ordinarily time barred non weathertightness defects into a court claim? They would not be able to bring such a claim in the Weathertight Homes Tribunal as its jurisdiction is limited to claims for water ingress, but claims with a mixture of defects are possible in the courts.

There is also the potential for defending parties to be joined many years after the house in question was built, as some assessor's reports will apply to houses built in the 1990s. We anticipate that there will be applications made by those involved in the design and construction of those old leaky houses seeking to argue that the homeowners' delay bars them from bringing a claim in the courts.

There continues to be uncertainty in light of Lee and we think that there is still much scope for the development of the law in this area. Watch this space.

If you have any questions about this article please do not hesitate to contact Frana Divich at frana.divich@heaneypartners.com or on 09 367 7021.

Ministry of Housing and Urban Development Announcement; Andrew Crisp, Chief Executive

The Ministry of Housing and Urban Development (HUD) is the Government's lead advisor on housing and urban development. We deliver the Government's housing and urban development programme to address homelessness, make housing affordable and cities more liveable.

Mr Crisp is currently the Acting Chief Executive at the Ministry of Housing and Urban Development, on secondment from his substantive role as Chief Executive of

Land Information New Zealand. Previously Mr Crisp was Deputy Chief Executive, Building, Resources and Markets at the Ministry of Business, Innovation and Employment.

The Ministry of Housing and Urban Development was established on 1 October 2018. It was set up to lead the design and implementation of an integrated housing strategy, advise government on the full range of housing issues and provide a single point of leadership for New Zealand's housing and

urban development sector.

The Chief Executive, Ministry of Housing and Urban Development role is a multifaceted one, with leadership responsibilities across the housing sector. In the 2019/20 financial year the Ministry will manage a departmental budget of about \$33 million. The Ministry monitors Housing New Zealand, the public housing landlord for over 60,000 families which has a housing portfolio over \$25 billion. In addition, the Ministry is a significant investor in housing, spending over \$1 billion in 2019/20 on rent support for public housing tenants and \$175 million on other housing and urban activities. It also manages over \$2 billion of capital for KiwiBuild and will monitor the new Housing and Urban

Mr Crisp will take up the role on 17 December for five years.

Prior to this, from 2016-2018, Mr Crisp was Chief Executive Land Information New Zealand. He was Deputy Chief Executive, Building, Resources

and Markets at the Ministry of Business, Innovation and Employment from 2012-2016. In 2011-2012 he was Deputy Secretary, Programmes, Ministry for the Environment. And from 2009-2011 he was Deputy Secretary, Strategy and Corporate, Ministry for the Environment. Between 2007-2008 Mr Crisp was Assistant Secretary, State Sector Performance Group at New Zealand Treasury. Mr Crisp holds a Bachelor of Commerce and Administration from Victoria University of Wellington and is a Chartered Accountant. He has attended the ANZSOG Strategic Leadership Course and the Darden Transformational Leadership Course, Virginia USA. He was a member of the New Zealand Infrastructure Study Tour delegation of the United Kingdom in 2014. He was Deputy Chief Executive Building Resources and Markets at the Ministry of Business, Innovation and Employment from 2012 to 2016.

For more information on Ministry of Housing and Urban Development, visit www.hud.govt.nz or click here to download the HUD Factsheet.

Bending the Bar Not the Rules

By Jonathan Shaw

We all know that on a building site things get tweaked, bent and generally manhandled into place – rumours abound about this site or that site where things weren't done properly but how seriously do you take such stories? When someone comes to you and tells you that they have cut reinforcing from the foundations of a building what do you do? How much tweaking is too much?

On a standard busy Friday we received an email advising us that a building nearing completion had large amounts of steel missing at the interface between the walls and the foundation they were meant to be secured to. It was not the first correspondence I had received alleging defective workmanship on a building project within the district, accusations often fly between rival outfits – construction sites are full of opinions on how things should be done and experience tells us that there is invariably more than one way to skin a cat. My initial response to such claims is always the same: "show me the evidence", only the author of the email turned out not to be the person who claimed to know the details so it was already turning into the bog standard wild goose chase I knew it would be. In the absence of verifiable facts there was only one option open to me and that was to put the allegations to the company carrying out the construction and the structural engineer they had engaged to design and monitor the build. It would simply be a matter of obtaining the site reports from the engineer and his written confirmation that there were no such issues detected throughout the construction phase and we could close this down....

The ensuing investigation verified that there was, in fact, steel missing from areas and I watched a highly esteemed engineer age a few years in a matter of weeks and his previously diplomatic comments on 'dimensional inaccuracy' gave way to profanity of a far more lurid nature as we exposed the issues and undertook an investigation into how it had occurred.

Enough reinforcing had been cut from the foundations to the point that remedial work was required to build new supporting walls against the original ones

and the investigation is ongoing months after we identified the issues. Currently council is weighing up its options in regard to action against the culprit/s which prohibits me from going into the finer details but it's safe to say that this has been a learning experience for all concerned - especially me. So, the things I have learned (in no particular order) are as follows:

1. Follow up on things (I cannot emphasise this strongly enough)
2. Record things in writing at the time, not later. Make sure your note-taking is up to scratch (see point 3)
3. If you haven't done so already, enrol in an investigative training course – conducting and recording an investigation is not for the faint-hearted and must be done correctly if you are going to carry out any kind of enforcement or legal action later on.
4. Seek professional help the moment you realise you are slightly out of your comfort zone – I contacted a well-known law firm and the advice they gave me saved a lot of grief and laid the foundation for legal action in the long term. We used them to draft the Notice to Fix and I consider it was money well spent.
5. Remain calm – listen far more than you speak and think before you act (see point 6)
6. Media – tread very carefully, the most innocuous comment can be turned around on you. Make full use of your in-house communications team.

I could go on and for those of you who are attending the 2019 BOINZ conference, I will be giving a paper on the 'rather lively' two years I have had in Building Controls and will be touching on this topic and others in further detail. I wish that I had read something along the lines of this article immediately prior to dealing with this – it would have saved me a lot of time and trouble. I was blessed in having a high level of support from my manager as well access to assistance from industry professionals. The guidance I received from legal advisors and structural engineers, above all else, was the key to us resolving the issues. Seeking help right away is paramount in these situations (as is writing things down).

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B2 – A Cracking Issue

Mike has been in the solid fuel industry since 2010 and is currently the President of the New Zealand Home Heating Association. He has a legal and aviation engineering background. Mike is a member of the joint Australia and New Zealand Standards Committee for solid fuel burners including pellet fires. A keen astronomer, Mike can often be found in dark places spying on the universe.

“Building elements must, with only normal maintenance, continue to satisfy the performance requirements of this code....”

BACKGROUND

A situation has arisen regarding a BCA deciding that a building consent is necessary to repair a 20mm crack in a firebox of a solid fuel heater that is less than five years old.

The BCA states that because the appliance is less than five years old and the crack repair is beyond normal maintenance, it has failed to meet the requirements of Clause B2. Accordingly, it concludes, the repair work will require a building consent.

Clause B2 states (in part):

“Building elements must, with only normal maintenance, continue to satisfy the performance requirements of this code...”

It is the BCA's position that the crack does not fall within the meaning of “normal maintenance”. Furthermore, the BCA says that, due to the crack appearing before the five year minimum prescribed in B2/AS1 Table 1 (for freestanding appliances), the requirements of B2 have not been met. Therefore, the BCA contends, a consent is required before a weld repair is carried out.

ANALYSIS

The term “normal maintenance” is not defined in the Building Act or the Building Regulations however, let's assume that welding repairs are not covered by normal maintenance.

If Clause B2 was determined on simple warranty principles, then the fact that the appliance has cracked within five years of the Code Compliance

Certificate's issue date would be the end of the matter. However, Clause B2 goes further by requiring that the failure affects the performance criteria of the Building Code. A simple failure is not enough -there must be some causal link from the building element failure to Building Code performance criteria.

In this case, the manufacturer has confirmed that the hairline crack has no impact on Clause C2.2. Therefore, the appliance continues to satisfy the performance requirements of the Building Code. The weld repair would likely fall within the Schedule 1(1)(1) and (2) consent exemptions under repairs and maintenance. The crack is minor, so Schedule 1(1)(3)(b) does not apply because the repair work does not involve complete or substantial replacement.

The question arises that even if B2 was not satisfied according to the above analysis, is a building consent necessary to repair the appliance? Say, for example, an appliance's shielding panel (required to pass Appendix B testing for Clause C2.2 compliance) fell off after four years; would a consent be required to refit the panel? This is a discussion for another day.

SOLUTION

The NZHHA aims for a pragmatic solution that satisfies everyone. If the manufacture was to supply the BCA with an opinion that the crack bears no impact on Clause 2.2, then it is hoped the weld repair can go ahead without the need for a consent.

Best wishes to all the BOINZ members and staff over the Christmas season.

All comments about this article can be directed to Mike, president@homeheat.co.nz



NZHHA Solid Fuel Heating Course

Date: 18th February
Location: Matamata
Time: 1:30pm - 05:00pm

BOINZ and the New Zealand Home Heating Association have partnered to bring a training seminar specifically targeted programme for the BCO constructed with the NZHHA, with a view to achieve rational knowledge for the BCO sector.

The training seminar is targeted towards building officials and consent/compliance staff wishing to know more about Solid Fuel Heating - Installation compliance requirements.

If you are interested in attending, please email training@boinz.org.nz or visit www.trainingacademy.org.nz for more information

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Fight - 'she'll be right'

The construction industry holds the highest rate of suicide across all industries in New Zealand, sitting at a hefty 6.9%.

6.9% of an industry that is hell bent on 'Health & Safety'. The hard hats are in place to protect the outside. Safety = CHECK. What about the inside? Have we lost site of the 'Health' part of 'Health & Safety'?

Building Research Association New Zealand (BRANZ) released a study earlier this year that ultimately asked if there was a need for consultation with the New Zealand construction industry to gauge their support for further research on the rising number of suicides within the industry.

The study looks at potential factors through interviewing employees actively working in the industry. With a focus on the "macho" culture and "harden up" ethos often found in the industry, which often lead to work place bullying, a resistance to diversity and even homophobic suggestions amongst employees. "...interviewees said that the construction industry

workers rarely ask each other "are you OK?"

Another major focus within the report looks at the "boom-bust cycle" of the industry when it is busy and there's a lot of work on, from the outside it could look like the business is thriving and it is classed as a "good-time" however those good times often result in high pressure on both employers and employees to delivery in high quantities and quickly. "During boom times, interviewees described having an abundance of work and opportunities to grow a business but not enough people to keep up with the demand. This means that workers find themselves doing long hours, experiencing fatigue and lacking work/life balance."

The report suggested that the enthusiasm for more research from interviewees was expressed with "... relief and gratitude that someone was finally doing something...." Since the report has been published Site Safe has received funding from the Building Research Levy to assist them

in conducting an in-depth study into suicides in the construction industry.

Site Safe Chief Executive; Brett Murray says "With 20 years' experience in construction health and safety, Site Safe is confident change can happen. We've seen the way old, "she'll be right" attitudes to safety have declined, and we believe the same shift needs to happen in the way we think about mental health."

With a vast list of employment classifications that fall within the construction industry, ask yourself this:

How can I make a stand to lower the number of suicides in my industry?

It is time to lead the way.

References:

- Bryson, K., Duncan, A. (2018) Mental Health in the construction industry scoping study. BRANZ Study Report SR411 [2018]
Murray, B. (2018) Putting Mental Health in the Spotlight. SiteSafe

Third Party Accreditation: the May, the Has, the Does and the Verified

by Andrew Wheeler

Traditionally when purchasing a manufactured item or product the “Brand” has been a significant indication of the quality as the two tend to be related. However, today with greater globalisation and the emphasis on costs there has been a significant move towards the manufacture of “commodities”. Consequently, when purchasing a product, we have a wider range of producers with significantly varying and competitive costs. Can we have confidence that they all meet the required standards?

It is normal for these products to have markings and guarantees indicating that they meet the relevant codes and standards. These may be the provision of manufacturer test certificates or the provision of printed warranties. While test certificates do provide some confidence, it is recognised that falsified test certificates are on the rise. Recently there have been cases of internationally well-known manufacturers with the reputation for high quality admitting to falsifying test records for numerous years. This raises the question then are manufacturers warranties and manufacturers test certificates a guarantee of the desired quality? And how does third party accreditation assist in ensuring quality?

Non-conforming products being introduced into the Australian and the New Zealand building construction industries have increased significantly in recent years. There have been some notability high profile cases demonstrating significant risks to the general public, coupled with high corrective action costs that are primarily born by the owners. It is evident that self-regulation in its current form is not the appropriate tool to ensure that “conforming” and “fit for purpose” products are being provided to the construction industry. In response to these events recent moves by regulators has seen legislation introduced that places the responsibility of nonconforming products on supply chain participants. This goes beyond the supplier to include the builders, the designers and the specifiers.

In the construction industry, systems, products and materials being utilised are becoming more and more complex, resulting in the certifier relying on

certificates supplied by the builder, sub-contractors or in some cases from third party product certifiers to ensure quality standards are met. While the builders and sub-contractors are in the best place to certify compliance to the various standards for their works, they are generally at a loss to certify prefabricated components and ensure the quality of materials being supplied. Hence, the use of and specification of third-party assessments are becoming more prevalent.

In the marketplace today, there are numerous certifying companies and various certifying schemes. This raises the questions. Whom are these third-party assessors? What are they certifying? What standard are they using in their assessment? Do they have the required expertise to assess the quality of the product/process? Do they all assure the same quality outcomes? How can we be assured that the product being provided is equivalent to what was specified?

In this article we will look at third party certification, identifying that there are differing levels of third-party certification and that it is important the specifier/designer/builder understand what they require from certification: and what scheme their product is being certified to. A certification scheme may be managed by statutory boards or developed within the individual companies/organisations. In evaluating the appropriateness of a third party certificate, it is important to understand how the scheme operates,

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including to what are they certifying to (is it to a standard or is it performance based), ongoing requirements (is it a compliance check at the time of certification only or are there ongoing checks carried out), whom is carrying out certification and do they have the required technical expertise.

When looking at the schemes currently available in the Australian/New Zealand marketplace, they fall into one of the following four categories of quality compliance:

Four Levels of compliance

1. May comply - the processes and operation of the facility mean that it can produce the product to the required level, but no checks have been carried out on the final product.
2. Has produced - the processes and operations of the facility produced the product to the desired quality verified at the time of certification inspection.
3. Does produce - the processes and operations of the facility and procedures result in a product of the desired quality which was verified at the time of certification, with regular audits and internal testing to ensure quality systems maintained.
4. Verified production - the processes and operations of the facility produces the product to the desired quality verified at the time of certification with ongoing reporting and regular independent audits to verify and ensure quality of product.

It should be stressed that all four levels of compliance are legitimate and have a role to play in the wider building and construction industry. It is however critical that those whom are specifying, installing or certifying building products have a good understanding of differences in compliance levels and the associated level of risk that they may be exposing to themselves, their clients, building owners, insurers and the public.

To enable a better understanding into these various compliance levels a description for each follows:

- **Level i) May comply** - in this case the manufacturing facility has been assessed as being capable of producing the product to the level required. The facility being assessed as capable of producing is the key component in this system. There is no supporting evidence to say that they do actually produce to the standard, they have simply demonstrated that they have the equipment and associated procedures to do so. Cost to obtain this type of certification is generally low as the assessment typically involves a one-off assessment and does not require any technical assessment.

A limitation of this certification is there is no independent verification that the product actually meets desired quality and there is no requirement for ongoing assessments or verification.

- **Level ii) Has produced** – in this case the compliance assessment has verified that the process and operations undertaken to produce the product has resulted in the quality required by the specification at the time of the assessment. The keyword here is produced. While certificates are typically dated with an expiry date, there is no expectation of ongoing external or internal audits to maintain this quality, only an assumption that the process and systems will remain unchanged. So while the assessment has demonstrated that the processes and operations are able to produce the quality required, it could be argued there is no guarantee that the quality will be retained with

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changes in the system. Similar to the previous level of certification, the costs are relatively low due to the minimal involvement of the certifying authority.

It would be considered that both the level i) and level ii) certifications are acceptable where risks and costs associated with a failure are manageable. Examples of these would be items that could be replaced with relative ease if the standard of quality was not appropriate.

- Level iii) and Level iv) are different to Level (i) and (ii) in that they provide not just an initial verification of the quality produced by the processes and systems, but an ongoing check on the quality. The primary difference between these two levels is the rigour and the independence of the quality audits.
- **Level iii) Does Produce** - the assessment is generally carried out with some input from a technical expert, looking at the systems and the end product ensuring that the specified quality is obtained. This assessment is generally based on internal verification methods that are provided at the time of assessment.

It should be noted that this level of certification may also require some ongoing audits from the certifying body, such as annual quality audits and possibly review of internal test results. This level of certification generally provides a good level of confidence that the product does meet the required standards. It does however require a fair degree of self-regulation, as the ongoing assessments are based on results provided by the manufacturer. In such a system there is a significant reliance is on the manufacturer self-regulating that the product does meet the quality requirements.

- **Level iv) Verified Production** - the certifying authority utilises external audits and other verification systems. While the extent and expertise of the external audits may vary depending on the product, they will all include regular audits conducted by technical experts looking at the technical aspects of the product and reviewing the internal quality systems. Additionally, verification that quality is being maintained is achieved through sampling and independent testing. This type of system also typically has full traceability of the product being delivered, enabling the purchaser to determine the source of all materials and identification of the facilities that the product has passed through. In this case the confidence in this product meeting the specified requirements under this certification scheme are excellent and the quality has also been verified by regular third-party testing.

To understand the applications for each compliance level let look at a few examples from the construction industry.

An example of a Level (i) certification would be a lighting fixture. The manufacturer may hold a third-party certification obtained by providing the third-party certifier with manufacture procedures outlining the materials and configurations used along with any testing and compliance requirements the manufacturer may have also undertaken internally. The assessor will have reviewed this information to the relevant standards (typically a desk-based audit), and if appropriate a compliance certificate will have been issued stating that if fabricated in accordance with the installation manuals and using the specified materials the components

comply with the relevant standards. Under this arrangement reliance is on the manufacturer to ensure quality. A lighting fixture would be considered not to be a critical element and could be easily

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replaced in the effect that the fitting was shown not to be compliant with the specification, hence the associated cost/risk with non-compliance is low and this type of certification is appropriate.

An example of a Level ii) certification would be a waterproofing system. In this case the manufacturer may obtain third party certification by providing the installation procedures configurations, and materials to be used along with any testing for compliance. The manufacturer would carry out the required type testing to validate the systems works and submit this as part of the certification. When reviewed the certifier can issue the certificate that the system if applied as documented it should meet the required standards. In this case there is no requirement for ongoing checking that the system works. It is noted that as a rule the installers will carry out testing (checked by builders) but the certifier of the system would not carry out the inspection. So for this system there is verification that the system can work, but the final check to ensure that the quality is maintained is on the builder, and failure can be rectified at minimal costs.

Structural components would typically fall under a Level iii), and Level iv) compliance where standards require initial and ongoing compliance checks of the products. In these cases the certifying authority would be undertaking audits to ensure that the procedures and testing as outlined in the standards have been met. Typically the testing requirements for compliance are carried out by the manufacturer to ensure that the quality is maintained. One of the key additional requirements of this level of certification is the requirement for ongoing checks on the quality standards through both internal audit and external audits. The regularity and extent of these audits either internal or external is a measure of the assurance of the quality.

An example of a Level (iii) certification would be an accessible fastener, in this case there is an assumed performance specification that needs to be guaranteed

to ensure the overall system is fit for purpose. The associated cost/risk of non-conformance is high and so a level of confidence in the behaviour of the fasteners is required, however in this case as the fasteners are accessible if non-compliant, they could be replaced thus Level (iii) certification would be considered appropriate.

The Level iv) certification of this system would involve additional quality assessments carried out by independent experts in the field and external testing. Hence, not only would the company be ensuring compliance throughout their systems on a continuing basis but an external expert is also reviewing compliance of the products and compliance to the systems being managed by the company. The significant advantage of the Level iv) over the Level iii) certification is that by utilising the independent parties for testing and assessments, systemic problems that affect the quality are identified and resolved through the auditing procedure.

As an example, if we take the previous example of a fastener, but position it so that it is inaccessible i.e. encased in concrete or within the structure. Then non-conformance may render the structure not fit for purpose, hence all measures possible should be taken to ensure that the produce meets the requirements and the compliance is independently verified.

It is recognised that the levels of certification do have cost implications, and these need to be weighed up against the exposure to risk. Hence some question the specifier, builder, owner should be asking are:-

- what are the implications if the quality standards are not achieved?
- how critical is component to operations and structural integrity?

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- what level of third-party certification is required?
- is independent testing required?
Once the level of certification has been identified, it is then critical during the specification and procurement process to review the proposed third-party certification and ensure that it meets the requirements to ensure that the quality specified is achieved.



2019 BRANCH MEETINGS

Branch	Date
Canterbury/ Westland	Tuesday, 22nd January
Auckland	Wednesday, 20th February
Waikato/Bay of Plenty	Friday, 22nd February
Central	Wednesday, 6th March
Southern	Friday, 15th March
Nelson/ Marlborough	Tuesday, 19th March
Auckland	Wednesday, 20th March
Northland	Friday, 22nd March
East Coast	Tuesday, 26th March

**** Branch meeting notices will be sent out closer to the time of the event with further details.**

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COURSE	DATE	LOCATION	DAYS
ADV005 Difficult to Consent	25 January	Whangarei	1
ADV020 Advanced Fire	28 January	Queenstown	1
TA002 Building Controls	11 February	Christchurch	3
LDR-E Leadership Workshop 1 & 2 (Emerging Leader)	11 February	Wellington	1
LDR-A Leadership Workshop 1 & 2 (Advanced Leader)	12 February	Wellington	1
LDR-E Leadership Workshop 1 & 2 (Emerging Leader)	14 February	Dunedin	1
LDR-A Leadership Workshop 1 & 2 (Advanced Leader)	15 February	Dunedin	1
ADV020 Advanced Fire	15 February	Palmerston North	1
ADV005 Difficult to Consent	18 February	Timaru	1
SSFHNZZHA Solid Fuel Heating	18 February	Matamata	1/2
TA005 Plan Processing	21 February	Wellington	2
LDR-E Leadership Workshop 1 & 2 (Emerging Leader)	25 February	Hamilton	1
TA015/16 F1 Safety of Users/D1 Access	25 February	Queenstown	1
LDR-A Leadership Workshop 1 & 2 (Advanced Leader)	26 February	Hamilton	1
ADV025 Earthquake Engineering	4 March	Christchurch	1
TA013 E2 Weathertightness	7 March	Hamilton	2
TA008 NZS 3604	12 March	Dunedin	4
TA019 Plumbing and Drainage	18 March	Wellington	5
TA009 Concrete Masonry	21 March	Queenstown	2
TA010 Light Steel Framing	22 March	Auckland	1
TA020 Fire Docs	28 March	Dunedin	2
ADV026 Asbestos	29 March	TBC	1

***Please note that the above dates and locations are subject to change, dependent on course attendee numbers.*



ENERGY EVENTS



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