



construct

2016 Edition 2



FOR CHARTERED BUILDING PROFESSIONALS

- /// THE AUSTRALIAN INSTITUTE OF BUILDING – THE FIRST 12 MONTHS
- /// DISRUPTION CLAIMS: IS IT ALL TOO HARD?
- /// FORECASTS SHOW PASSING BOOMS, BUT NO TIME FOR GLOOM

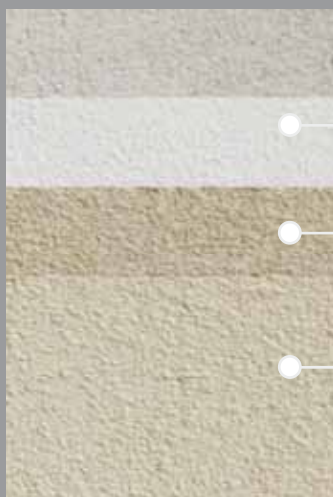
How Acrylic Texture lasts longer

When specifying a new project, insist on **FLEXIBLE ACRYLIC TEXTURE**, not just painted cement render.

The *AcraTex* 3-step system encapsulates the walls in a membrane envelope acting as a barrier against adverse weather conditions for years longer than cement render.

Available across the full Dulux® Exterior colour range.

The AcraTex® 3-step coating system



Suitably prepared masonry substrate
(refer to *AcraTex* system guides for detail)

AcraTex AcraPrime™

More than just a "first coat" *AcraPrime* consolidates the substrate providing a stable base for long term integrity.

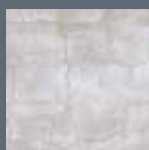
AcraTex Acrylic Texture

High Build Acrylic Texture up to 40 times thicker than paint, providing feature style and Acrylic Texture durability with colour integrated throughout.

AcraTex AcraShield® ADVANCE

Elastomeric Barrier coat protection up to 3 times thicker than paint – *AcraShield Advance* is the system lock that ensures maximum resistance to the elements and extended system life cycle.

The *AcraTex* System with its flexible Acrylic Texture coating guards against degradation. Ordinary cement render is hard and brittle leading to typical problems like these.



CRACKING

Cement shrinks as it hardens & expands/contracts with temp. Low build paint systems are typically unable to bridge render cracking.



EFFLORESCENCE

Salt blooming over the surface & concentrated leaching at cracks can occur leading to discolouration and potentially peeling.



STAINING

Inferior paint systems hold dirt & can allow moisture ingress. Moisture attracts and magnifies surface contaminants.



Image courtesy of Webb & Brown-Neaves

Learn more at acratex.com.au
Dulux Customer Service 13 23 77

Dulux® AcraTex® is a division of DuluxGroup (Australia) Pty Ltd. ABN 67 000 049 427.
Dulux®, AcraTex® and AcraShield® are registered trade marks
and AcraPrime™ is a trade mark of DuluxGroup (Australia) Pty Ltd.



Performance Coatings for Masonry

construct

2016 Edition 2

Industry News

A MESSAGE FROM THE NATIONAL PRESIDENT	2
THE AUSTRALIAN INSTITUTE OF BUILDING – THE FIRST 12 MONTHS	8
CONDEV SECURE ALMOST \$200M IN BRISBANE RESIDENTIAL PROJECTS FOR URBAN CONSTRUCT	10
SCREEDMASTER SYSTEM MAKES SHORT WORK OF FORMING UP REBATES ON COMMERCIAL CONCRETE DECKS	12
DIESEL EMISSIONS RISING FAST	12
NEWCASTLE LIGHT RAIL REPORT AND EXPANSION OPTIONS RELEASED	14
GROWING TREND FOR COUNCILS TO SELL PLANNING DECISIONS THROUGH VALUE CAPTURE	16
COMMISSION TARGETS UNLICENSED BUILDING WORK ON COAST	16
GROWING APPRENTICE DEMAND IN QUEENSLAND'S CONSTRUCTION INDUSTRY	20
HELPING TO UPSKILL TASMANIA'S NEXT GENERATION OF BUILDING LEADERS	20
STRAMIT PAVES THE WAY FOR BUILDING MANUFACTURERS WITH NEW BUILDING INFORMATION MODELLING STRATEGY	22
INNOVATIVE CONSTRUCTION TECHNIQUE DELIVERS LATEST MILESTONE AT ICC SYDNEY IN DARLING HARBOUR	22
PIMP YOUR NOTEPAD WITH WACOM® BAMBOO SPARK	24
AFS WALLING SOLUTIONS ACHIEVES CODEMARK CERTIFICATION	26
BUILT EXCEEDS ALL GREEN EXPECTATIONS AT 20 MARTIN PLACE, SYDNEY	28
FORECASTS SHOW PASSING BOOMS, BUT NO TIME FOR GLOOM	30
DISRUPTION CLAIMS: IS IT ALL TOO HARD?	34
WORLD'S BEST PRACTICE FOR ANCHORING INTO CONCRETE IS ADOPTED AUSTRALIAWIDE	36
LANDCORP A LEADER IN WORKPLACE HEALTH	37
NEW AUSTRALIAN CODE OF PRACTICE AND ACCREDITATION SCHEME FOR UPVC WINDOW PROFILES PUBLISHED	38
SPATE OF FALLS INCIDENTS PROMPTS SAFEWORK WARNING	38
MELBOURNE OUR FASTEST GROWING CAPITAL	40
'CONSTRUCTION KING' SYDNEY DOMINATES CRANE INDEX (NSW)	40
CURRENT LENDING PRACTICES CAN PUNISH SMALL BUSINESS	41
STATEMENT ON THE RELEASE OF INFRASTRUCTURE AUSTRALIA PLAN	42
STRAMIT CORRUGATED ROOF AND WALL PLANNING AT THE CORE OF THE DESIGN	42
CONCRETE PROBLEMS TODAY ARE MULTIFACTORIAL - ROOT CAUSES	44
EXPANDED CBD PROGRAM CAN TACKLE MID-TIER BUILDINGS	46
SITELINE COMPOSITE WINDOWS AND DOORS COMBINE THE BEAUTY OF TIMBER WITH THE DURABILITY OF ALUMINIUM	46

construct is published by The Australian Institute of Building



PO Box 705 Jamison ACT 2601
Email: aib@aib.org.au
Telephone: +61 (0)2 6253 1100
Facsimile: +61 (0)2 6253 4411
Website: aib.org.au

The construct magazine is produced by Otime Publications. For advertising rates please contact Steve Moxey on 0400 473 200

An introduction to the Australian Institute of Building

The Australian Institute of Building (AIB) is incorporated by Royal Charter and is the preeminent professional body for building professionals in Australia and the Asia-Pacific region. The AIB has a long and proud history of supporting and serving the building profession. For more than sixty years the Institute has worked with the building and construction industry, government, universities and allied stakeholders to promote the building profession, support the development of university courses in building whilst promoting the use of innovative building techniques and a best-practice regulatory environment.

The AIB is proudly supported by:



A Message from the National President Norman Faifer FAIB FAIQS FIAMA



Welcome to my Sixth Construct Magazine (May 2016) column as National President of the Australian Institute of Building; it is an honor to continue to serve and lead the Institute.

Locally, our new CEO Mr. Greg Hughes commenced his journey with the Institute, 4 April 2016 and has at this time already attended (and MC'd) the ACT Chapter PEA event. To say that he's on a steep learning curve would be a gross understatement; I believe he has made a great start and has formed good relations with the staff, Councilors, Chapter Presidents and hopefully, going forward, our members.

The Institute continues to make headway in the representation of its members with each of the State and Territory Regulators (Qld, NSW, ACT, Vic, Tas, SA and WA) and under the banner of the NBPR the Institute has submitted a Tender to the Victorian Building Authority for the provision of Assessment services for the registration (licensing) of Registered Building Practitioners (incl. Builders) in that state.

Recently a Tasmanian Branch of the Young Builders Alliance (YBA) was formed which establishes further the reach of the YBA student movement throughout Australia; whilst there is no degree in building and construction offered in Tasmania, the University of Newcastle offers a distance learning process

with the flying in of occasional lecturers to Hobart. Our hearty congratulations are extended to all involved including the new YBA student committee. The AIB is proud to support this initiative.

We continue to liaise with the relevant Federal and State Ministers on matters, building: The Hon. Greg Hunt is Minister for the Environment, The Hon. Simon Birmingham, Minister of Education and Training, the Hon. Richard Colbeck, Minister of Tourism and International Education, Assistant Minister The Hon Karen Andrews is convener of the (States) Building Ministers Forum and Assistant Minister Angus Taylor is Minister for Cities and Digital Transformation are but several of those Honorable people we are dealing with.

On 1 May 2016, the 2016 Edition of the Building Code of Australia came into force – not only did various stakeholders in the building and construction industry (the AIB included) achieve that it would now be available on line and free, it would also from now be in force for three (3) years with no regular (annual) updates (save for items of an emergency nature). There are important developments in the 2016 BCA: many opportunities lie in the Deemed to Satisfy (recipe book) OR Performance Solutions (ex Alternative) regimes for better more flexible designs and construction techniques.

Of current importance are the continuing debates on non-conforming and non-compliant (building) products which are still at boiling point with much thought and discussion occurring; the whole industry is observing what is happening in Victoria with their management of these issues there.

On the international scene, the Institute will be liaising with our Tripartite Agreement partners, the NZIOB, SIBL and the AIB over future international events, conferences and site visits etc. (an inaugural Conference is mooted for Auckland NZ in 2017).

Further to AIB Vice President Graham Teede FAIB's initiative and my follow up meetings with the Universities of Pretoria and Cape Town, South Africa, Mr. Teede will be leading

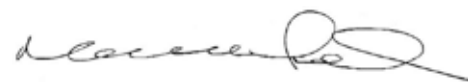
a small AIB delegation to South Africa and the University of Pretoria to present an AIB Address, deliver two lectures, visit local sites and to host a small gathering of building industry persons at the Australian High Commission in Pretoria later this month (May). All are keen to promote interaction between students in Australia and South Africa with the SA Universities acknowledging that an increasing number of their graduates (from all Faculties and Schools) are securing positions in Australia, Oceania, South East Asia and the Middle East.

Our Overseas Chapter President, Mr. Robin Fardoulis LFAIB and the Institute's new CEO, Mr. Greg Hughes will at the same time as the South African visit be in Hong Kong conducting regular Professional Interviews and visiting various local industry and educational institutions. In July I will be in Hong Kong with Mr. Fardoulis and others attending the HK Chapter AGM and attending to some potential Accreditation processes. A later visit to Singapore is also planned.

Our members should recognise that not only are we part of things locally and Nationally, we are as well involved globally, particularly in the Southern Hemisphere.

May I again repeat what I have said in past Construct Magazine Editions: The Institute is making great strides in representing its members in many forums however we still require your active participation; we welcome constructive comment and suggestion (rather than destructive criticism); this Institute is only as strong as we make it so we all have a role to play and remember there are many advantages and benefits that you derive from being a member.

Yours fraternally,



Norman Faifer FAIB FAIQS FIAMA
*National President (and Chairman of
National Council)*
The Australian Institute of Building

Dreaming of a career supervising and managing dynamic building projects?

CRICOS No. 00001K – RTO Code 0101 – APR16 – 160237



Canberra Institute
of Technology

Diploma of Building and Construction (Management) (CPC50308)

Learn from experienced industry experts, liaise with project managers and stakeholders across the ACT, visit live building projects and gain **practical, hands-on, industry relevant** skills. Job opportunities include site supervisor, site manager, construction project manager and construction estimator.

Study now, pay later with a **VET FEE-HELP** loan.

Max course cost (enrolment with all electives selected) \$3085. Standard course cost (enrolment with standard electives selected) approx. \$2040. For terms and conditions visit cit.edu.au/vetfeehelp

Apply now.
cit.edu.au/building



This course is offered under Skilled Capital. Eligible participants can complete their qualification and receive a **completion payment of up to \$300** from the ACT Government. Payment is made upon successful completion of a skilled capital qualification which must be completed within two years of the commencement date.

To find out if you are eligible please visit skills.act.gov.au

Dream it. Learn it. Be it.

Corporate Profile Interpod Offsite

Our Mission

Interpod Offsite was established to streamline construction by providing our clients with the speed, quality and flexibility to deliver better projects, faster. How do we provide this? By offering an end-to-end bathroom solution for large-scale developments. We manufacture bathroom pods offsite and deliver them complete, ready to be installed.

"Can you imagine buying a dishwasher and assembling it piece-by-piece on your floor when you move to a new home? This is essentially what occurs during a traditional bathroom construction. As multiple trades are in and out completing complex and specialised tasks, the site is at risk of adverse conditions such as weather and the overall project is at the mercy of budget and timeline constraints. Why not just buy a finished bathroom and install it in a matter of minutes?" – Cameron Monks, Business Development Director, Interpod Offsite

This explanation of why prefabricated modular construction works is a common analogy when the Interpod team are explaining exactly what it is that Interpod Offsite do. Modern modular construction is a ground-breaking innovation for the construction industry both locally and globally, as it removes many of the risks associated with an onsite construction programme. Interpod Offsite is at the forefront of this innovation in the Australasian market.

The Trouble with Traditional Bathroom Construction

Bathroom construction is an infamously problematic area of construction. In fact bathrooms account for up to 80% of defects on large projects, and yet only account for 8-10% of the total budget. When considered logically, it makes sense that bathrooms are the root cause of so many construction project problems. It is one of the smallest rooms in the entire dwelling, and yet it is also one of the most laboriously intensive to build. Nearly every building trade at one point or another will play a part in the completed product - plasterers, waterproofers, tilers, vinyl layers, painters, plumbers, carpenters, electricians, mechanical contractors, and glaziers – each of these trades are moving in and out of a single room and are entirely reliant on painstaking coordination and tight schedules.

In smaller boutique projects, budget increases and timeline overruns can sometimes be re-appropriated elsewhere. Large-scale developments, however, cannot be afforded such leniencies.

Imagine being able to remove that statistic from a large-scale development. Imagine if you could ensure a defect-free end-to-end bathroom solution across your entire project.

Cue, prefabricated modular bathrooms.

A Calculated Construction Choice

The benefits of prefabricated modular bathrooms can have enormous impact on the overall success of a large-scale development.

The efficiency and speed with which prefab bathrooms can be built, delivered and installed also far exceeds the completion rate possible on a traditional build. Often over three months will be allocated to bathroom construction on a project schedule. Interpod can begin manufacturing bathrooms earlier than the on-site alternative. This allows for their delivery and installation to coincide with the project schedule. An Interpod bathroom can be installed and operational in a matter of minutes.

One of the essential benefits of Interpod bathrooms is the project certainty they can provide. The Interpod design and manufacturing process allow for the utmost levels of control, predictability and efficiency. When you consolidate the entire bathroom build to single supplier, you are left with a single cost and a single, defect-free guarantee for the bathrooms in your project.

Weather delays, on-site conditions, trade coordination, programme setbacks, contractor disputes – the list of onsite variables that affect the delivery of bathrooms is long and tedious. A prefabricated modular bathroom solution is rarely concerned with these issues. The bathrooms are built offsite, in factory conditions under strict quality

control protocols and delivered complete to project site, ready for install.

This level of project, cost and time certainty cannot be provided by a traditional bathroom build, making Interpod a calculated construction choice.

Prefabrication is the future of construction

Prefabrication is not a new concept. Elements of prefabricated construction have existed through history since 62 AD, allowing humanity to build, fortify and shelter more efficiently. In recent years, the trend towards prefabrication in global construction industries is the result of technological advances and a need for greater quality control in shorter time frames. The processes employed by Interpod mean that neither quality, time, nor cost are compromised, a true innovation of process, in our eyes.

All industries, businesses, markets, and products require innovation. If we do not innovate, we will not survive. As defined by the Oxford English Dictionary (2016) to innovate is to *"make changes in something established, especially by introducing new methods, ideas, or products."* An innovation is a more effective process than the previous.

It is reasonable to state then that prefabricated modular bathroom pods are an innovation for the construction industry as a whole. They allow teams to deliver more efficient projects through cost and time certainty, whilst mitigating the risks associated with an onsite build such as weather delays and schedule overruns.

Markets such as Sweden now include prefabricated or modular elements in 74% of construction programmes. In the UK, the offsite construction sector accounts for 7% of total construction output, worth over £1.5bn to the economy (UK Commission for Employment and Skills, 2013). This figure is forecast to increase to over £6bn in coming years and some of the UK's biggest builders are on board to see it happen.

The rest of Europe follow suit in a myriad of statistics that point to one true finding: prefabricated modular techniques are the future of construction.





Our Story Begins

This is where the Interpod story starts.

With the trend towards off-site manufacture of building products becoming apparent, the need for a local supplier of Australian Standards compliant modular bathrooms had become evident by 2009. Having produced manufactured buildings for both the private and commercial sectors since 1992, the Directors had the expertise to fulfil this need. From this, Interpod Offsite Pty Ltd, a wholly new and independent company, was established in 2010.

Considerable research and development was carried out, and the first bathroom pods were manufactured and successfully installed.

Following this further projects were soon completed. The experience and expertise of the team at Interpod became evident. We have continued to grow and, with many projects now successfully completed, have become Australia's leading bathroom pod manufacturer.

Why Go Offsite?

- //// Save time on the project and/or guarantee delivery dates
- //// Increased quality of the bathrooms through factory manufacture – reduced defects
- //// Streamline project management – one point of contact
- //// Save cost on overall project by reducing construction time by up to 30%
- //// Increase safety on the site by minimising trades and materials

By building bathrooms in factory conditions, Interpod removes many of the physical environment liabilities that put traditional bathroom builds at risk. This is due to our controlled factory environments and rigorous quality management systems. These ensure that all Interpod bathrooms are of the highest possible quality.

This set of standards and controls, which are now backed by internationally recognised certification, ensure that Interpod Offsite have demonstrated consistent improvement in the areas of quality, safety, and the environment. This dedication to world class manufacturing has seen Interpod achieve the following certifications:

- //// **ISO 14001:2004 Environmental Management Systems**
- //// **ISO 9001:2008 Quality Management Systems**
- //// **AS/NZS 4801:2001 OH&S Management Systems**
- //// **Watermark Certification on the Interpod Bathroom Solution**

Beyond the clear benefits of quality control and efficiency, an offsite manufacturing facility also allows for more sustainable and environmentally-friendly building practices.

Our sustainable factory line production methods translate to a far lower environmental impact than traditional bathroom construction techniques. Our manufacturing processes maximise efficiencies in materials usage, and any waste is carefully accounted for and re-used or recycled where possible. We also minimise emissions by reducing the number of deliveries required to your site.

Additionally, if a project has specific Green Star requirements, Interpod can design your modular bathrooms to comply with them – no matter how strict they are.

Which Sectors Are Maximising The Benefits Of Modular?

The benefits of an Interpod partnership often outweigh a traditional build. However there are projects that are not as ideally suited to prefabricated modular methods. A simple rule of fifty (50) bathrooms of one (1) design is the minimum ratio in order to ensure the full benefits of bathroom pods can be realised.

This simple ratio of 50:1 means bathroom pods are favoured by the high-density residential, aged care, hotel and hospitality, student accommodation, and defence sectors.

All of them ideally positioned and ready to pursue innovative construction technologies.

The student accommodation sector has been fuelled by the growth of what is now one of Australia's largest industry sectors – education services. The growing number of students seeking homes in inner city locations means that the delivery of quality student accommodation facilities in a timely manner is paramount to Australia's leading educators.

In fact, Interpod has now delivered over 5000 bathroom pods, with another 2600 pods due for completion in the student accommodation sector alone. As a company we have had the privilege to work on award winning projects such as 'The Steps' Central Park, delivering some 741 bathrooms in partnership with visionary property developer Frasers Property and Japanese leaders Sekisui House.

In Melbourne, Interpod have assisted the University of Melbourne in housing 648 students in a soon

to be completed Leicester Street development in partnership with Campus Living Villages and Watpac.

The Queensland capital of Brisbane is also bolstering its liveability for both international and local students as they move to accommodate for the influx of tertiary education seekers. The much needed development will see 785 dwellings built across two 15 and 17 storey towers on Vulture Street, with Interpod to provide an end-to-end bathroom solution.

The need for speed and quality extends beyond the minds of tomorrow to the services industry and their desire to bring projects to market faster. Tune Hotels and Arrow International enlisted Interpod to provide nearly 300 bathrooms over 8 floors in an unforgiving timeframe. *"Notwithstanding time and cost benefits, having the bathrooms manufactured in a controlled environment has made for far superior control over quality and allowed for regular checks and sign-offs, ensuring the delivered product was defect free on installation,"* said Matt Hall, Arrow International's Project Manager.

The aged sector is another key area that is expected to grow year on year as Australian's grow older. An estimated 25% of the Australian population will be aged over 65 in the next 40 years (Australian Government: The Treasury, n.d.), and ensuring this demand is met with a pipeline of quality projects is imperative for the Australian people. With many existing facilities already providing quality care services for the elderly in Australia, Interpod have been engaged to update these facilities. Our partnership with Grindley Constructions saw particular success as the residents of ARV Farrer Brown Court in Castle Hill received the minimal possible disruption to their daily care as new specialty-built facilities were installed onto the exterior of the building.



How does Interpod deliver?

Interpod Offsite has national capacity with Australian corporate offices in Sydney, Brisbane, Melbourne and the Hunter Valley with the Head Office and three (3) fully operating manufacturing facilities on the Central Coast of New South Wales (NSW).

Our current in-house capabilities enable us to produce in excess of 30 bathroom pods per day. That's 150 pods out of the factory door a week and nearly 8,000 bathrooms ready to be delivered and installed each year.

As the Australian market continues to make the inevitable shift towards offsite components, Interpod is already planning for the future. With an on-going focus on growth and innovation we are preparing to open a fourth facility in NSW that will allow us to increase our capacity to 200 pods per week.

All of this is orchestrated under a strict Quality Management System (QMS) that is internationally recognised. Each and every day our project team are monitoring and assessing our processes to ensure that they are being improved, all for the satisfaction of our clients.

Custom Design vs. Standard Range

Many people believe that prefabricated bathrooms are confined to a set template or layout but our commitment to flexibility and innovation mean our bathroom pods have virtually no design limitations. We work closely with our partners to produce a high quality solution with the same bespoke look and feel as any premium on-site construction.

Alternatively, our range of standardised bathroom designs ensures we are able to fulfil a range of needs for nearly every sector including hotels, student accommodation, multi-dwelling housing and aged care facilities. By utilising the well-proven designs of the Interpod standard range, we can help projects to capitalise on the significant cost-savings and time efficiencies that repetition in the modular production process offers.

We know that every construction project will bring with it a set of particular requirements, issues, and constraints, and so we work closely with all of our clients to ensure that they are always making the most efficient, productive and quality design choices to offer the greatest benefit to their programs and budgets.

Our Team

As Australia's only modular building company solely dedicated to the manufacture of bathroom pods, our large and rapidly growing team bring together a unique diversity of backgrounds with a broad range of skills and knowledge. Our directors and management team includes of licensed builders and engineers, with vast experience from construction, automotive, heavy engineering, and modular building sectors. Interpod believes that this in-depth understanding of both construction and manufacturing disciplines is what is required to provide our clients with a cost effective, manufactured solution that works seamlessly on the construction site.

Our team of project managers, designers and engineers collaborate with global affiliates to bring the world's best practices, methods, ideas and technologies to the local arena.

Our collaboration and our decades of experience ensure we are able to meet diverse client demands and consistently surpass all expectations.

Our Values

On our mission to streamline construction, our values become our roadmap. As a family-owned and operated business, our values of integrity, collaboration, quality, action, and continuous improvement form the foundation of each and every action our company and our people take. Integrating these values into everything we do has helped to cement Interpod as the first choice in prefabricated modular bathrooms.

Australia's Leading Manufacturer of Prefabricated Bathroom Pods

Interpod Offsite know first-hand the challenges faced on a construction site. Weather delays, tight schedules, budget constraints to name a few. On top of this, a long list of trade professionals are trying to complete an even bigger list of jobs in what is often one of the smallest rooms. Multiply this by any number and the chances of defects, budget blowouts and schedule overruns are a reality.

Interpod removes these risks from your construction site. By consolidating the entire bathroom build to an Interpod partnership your next project will be able to unlock a new level of project certainty, time and cost certainty, efficiency and sustainability. A true innovation for large-scale construction projects.

If you are or have considered using prefabricated modular elements in your next project, Interpod Offsite have the expertise to ensure that it is a success. Call 1300 00 PODS for a free consultation request, or to request our Designing for Pods Manual and access the benefits of Interpod today.

References

1. Australian Government: The Treasury, n.d. Appendix – the economic implications of an ageing population. [Online] Available at: http://demographics.treasury.gov.au/content/_download/australias_demographic_challenges/html/adc-04.asp [Accessed 12 May 2016].
2. UK Commission for Employment and Skills, 2013. A 10 year change programme: Developing offsite construction for the challenges ahead, s.l.: UK Commission for Employment and Skills.





interpod
offsite

A BETTER WAY TO BUILD BATHROOMS

**Prefabricated modular bathroom
pods are the future of construction.**

Contact Interpod today to find out
how you can achieve a new level of
project efficiency, cost certainty and
quality control.

Visit www.interpod.com or contact us on 1300 00 PODS



THE AUSTRALIAN INSTITUTE OF BUILDING – THE FIRST 12 MONTHS

Greg Hughes, CEO of the Australian Institute of Building

As a person who is passionate about Not For profit's, I was both thrilled and honoured to be offered the position of Chief Executive Officer with the Australian Institute of Building (AIB) back in early April this year.

One of the first questions I always ask when I walk through the door of an organisation is:

- ||||| Who are we trying to be relevant to?
- ||||| Who else is in this space?
- ||||| What is our fundamental Value Proposition?

The reality is that in today's maze of organisation's vying for that membership dollar – we must never forget one overarching principle – 'relevancy' for both our membership and the wider community that we touch.

In the coming months, my intent is to examine the Value Proposition and ensure that we offer a compelling return on investment for our members. It is one thing to offer benefits that

are developed by a committee, however again it is paramount that these benefits are truly valued and tested appropriately in the market place.

For too long, fellow organisations in my view have under - valued the real worth of developing both deep and strong relationships with their 'sponsors' I say the word sponsor/s with hesitation, as more often than not many of these relationships that have been brokered are transactional and without the depth of the business relationship that I espouse.

The AIB represents a critical mass of people at the core of the building and construction process and it is my express view that we engage with like - minded organisations that will grow with us on our collective journeys. In some of my previous organisations, there were 'partners' that had been with us for over a quarter of a century! – a record in anyone's books I would of thought.

It is vital that the Partners programme is a mutually beneficial one that will not only assist us in fuelling our events and activities across the board, but conversely, help our partners grow to new levels as well.

Our door is open right now, and I would be happy to discuss this vision with any organisation that shares a similar view with regard to developing a **real** partnership.

Not surprisingly, our future lies in the future of both our students and graduates. Through our Young Builders Alliance (YBA) and other initiatives, it is imperative that we have a clear, engaging and appealing strategic plan for the next generation over the next five to ten years.

Similarly, we have a group of professionals that we have had on board for many years and will continue to bestow upon them a level of respect that they so richly deserve. Often this recognition is through our Professional Excellence in Building Awards (PEA's). At state and territory level we recognise and award individual professional excellence in building. Perhaps reading this as a member, I strongly encourage you to support in an ongoing fashion these critical Awards.

It is important for us to recognise and value the contribution that building practitioners make to the economy and our everyday lives - the fruits of their efforts is evident in the infrastructure and built-environment that we utilise, enjoy and rely upon every day. I will be actively promoting the practice of building as a profession and to ensure that the professionalism and good-standing of our members is highly valued and appreciated in our industry and society.

The board of the AIB are tasked with setting the strategic agenda for the organisation and I sincerely look forward to not only where appropriate pushing some of the boundaries with them, but to working hard with a fabulous and dedicated team of professionals at the National Office in taking the organisation to the next level.

Temporary Movement Joints in Post-Tensioned Concrete Frames

Locked and Bolted.

Products from our 'Lockable' range accommodate initial concrete shrinkage and are then securely locked, mechanically and chemically, preventing further movement taking place.

- ✓ Replace unreliable site-assembled systems
- ✓ Fully tested, proven performance data
- ✓ Eliminate pour strips
- ✓ Simple installation. Sleeve nailed to formwork on first pour
- ✓ Guaranteed alignment of dowel/pin with sleeve on second pour
- ✓ Guaranteed longitudinal and lateral movement
- ✓ Unique void former allows inspection before locking



Ancon Lockable Dowel

Transfers shear load in both its locked and unlocked state



Ancon Locking Pin

Used in conjunction with Ancon dowels to provide a practical, cost-effective solution

Another Construction Solution from

Ancon[®]

BUILDING PRODUCTS

Tel: 1300 304 320

Email: info@ancon.com.au

Visit: www.ancon.com.au/lockable

*Ancon has offices in Sydney, Brisbane,
Melbourne and Perth*

CONDEV SECURE ALMOST \$200M IN BRISBANE RESIDENTIAL PROJECTS FOR URBAN CONSTRUCT



Multi award-winning building company Condev Construction has recently won several project tenders for Brisbane developer Urban Construct.

Collectively, Condev has secured \$190.8m in residential projects across south east Queensland including Harbour Village, Hilltop Residences, Hillside Residences and Manhattan Terraces.

Together Condev Construction and Urban Construct have already delivered 95 waterfront villas to the Emerald Lakes area.

These upcoming projects will mark the next step in their relationship together.

Condev commenced construction on Harbour Village late last year, with completion scheduled for early 2017.

Construction on Manhattan Terraces commenced earlier this year and construction on The Residences is yet to commence.

Urban Construct's Todd Brown says relationship and quality are the key reasons Condev was chosen for the projects.

"We have a long-standing relationship with Condev based on years of experience," says Mr Brown.

"They are competitively priced while still maintaining the high level of quality we expect of our developments.

"We use Condev time and time again because they have the experience and the ability to fast-track the design and construction process to deliver the project on time."

The \$47m Harbour Village project is located on the Gold Coast at Emerald Lakes and comprises of 83 two and three storey villas on the waterfront.

The \$28.8m Hilltop is also located at Emerald Lakes and comprises of 51 townhouses with views of the lake and out to the Gold Coast hinterland.

Hillside is a \$40m project in the Emerald Lakes precinct, which boasts a European-inspired village lifestyle with 74 two and three bedroom villas.

The luxurious \$80m Manhattan Terraces located in West End, Brisbane comprising of 80 two, three and four bedroom high end terrace homes.

The luxury terrace homes feature private rooftop retreats, spacious interior designs and open garden spaces.

For all media enquiries contact Grace Mackay on 0438 714 336.

Construct Magazine

Just a short note to remind you of the discounts you can receive by supporting the Australian Institute of Building **Construct** magazine.

As you are aware the **Construct** magazine goes to all members of the AIB, the last edition was distributed electronically and has received almost 10,000 reads so far from the AIB website, increasing exposure to more businesses other than members.

AIB member discounts are as follows;

Book one edition and receive 25% off the rate card price
Book two to three editions receive 30% off the rate card price
Book four or more editions receive 35% off the rate card price

Any bookings made include a free in-house design service (conditions apply). Should you require any information regarding the design service please contact Sarah Abrahams on 0412 103 569 or email design@ontimepublications.com.au

For all sales and advertising enquires please contact Steve Moxey any time on 0400 473 200 or email steve.moxey@ontimepublications.com.au



GOUGH
RECRUITMENT.

**WE ARE AN
AWARD WINNING
Specialist Recruiter
in Development
and Construction.**

Building relationships
through trust, industry expertise & high standards.

Get to know us better at goughrecruitment.com or call us on
+61 2 9362 8500 to discuss your recruitment needs.

SYDNEY | MELBOURNE | PERTH | BRISBANE | SINGAPORE | NEW ZEALAND

MAKE THE MOST OF YOUR MEMBER BENEFITS



Enjoy exclusive savings on dining, accommodation, shopping, airline lounge memberships, package tours, insurance services and more.

For more information, contact AIB Member Advantage:

www.memberadvantage.com.au/aib | 1300 853 352

SCREEDMASTER SYSTEM MAKES SHORT WORK OF FORMING UP REBATES ON COMMERCIAL CONCRETE DECKS

An innovative new product designed to support formwork for rebates and set-downs on concrete decks is taking Melbourne's commercial construction industry by storm, and is about to be launched nationally.

Screedmaster is a lightweight but sturdy, fully adjustable chair made from 100 per cent recycled plastic. It's designed to make life easier for formworkers and precasters, providing a reliable, easy and quick-to-install fixing point for formwork for set-downs, as well as a support for reinforcing bar.

Since its launch in the middle of last year, Screedmaster has won word-of-mouth acceptance and been successfully proven on a number of major commercial projects, including a 70-storey high-rise in the Melbourne CBD.

"Everyone who has used it so far has come back for more. They love it," says the product's inventor, Ari Schupak.

The beauty of Screedmaster is in the simplicity of its design. Each unit has a base, threaded height adjuster and saddle. It is screwed into the formwork deck – either ply or metal – and adjusted to the required height, from 125mm to 245mm. It can be left in the concrete after the pour.

The saddle can be used to support reinforcing bar or to set the height for set-downs such as shower bases, rebates and steps.

For the latter, it provides a far simpler and time saving alternative to cutting or jackhammering out rebates and set-downs after concrete has cured, or building complex formwork boxes beforehand.

The Screedmaster system is manufactured in Melbourne by ICF Contracting. For more information, including a demonstration video, go to www.screedmaster.com.au

For distributor or sales inquiries, contact Ari Schupak at manager@icfc.biz or 0425 723 620.



DIESEL EMISSIONS RISING FAST

National

||||| Emissions reported by CEDEX® have risen by an amount equal to 2.2% of total national emissions in the 18 months to December, 2015

||||| Electricity demand continues to follow the same trends as outlined in previous reports - that is, the slide in demand that had been pronounced from 2010, ended by early 2015 and has been replaced by steady and consistent growth

Tasmania

||||| Emissions remain relatively unchanged to end December, but are expected to rise in 2016 as government seeks alternatives to the Basslink supply through gas-fired and containerised diesel generators

||||| Discussions underway for industry to curtail electricity consumption, but little encouragement for domestic users to follow suit

Supply

||||| Black coal generation has increased, but offset by a decrease in brown coal. Total coal generation is at 76% to February 2016, with very little change in the last four months

||||| Renewable electricity has increased to 13.1%, in the short term caused by increased generation by Snowy Hydro, and over the longer term attributable to growth in wind generation, although that is currently at a standstill.

Gas

||||| Emissions from natural gas consumption have slightly eased compared to the previous CEDEX® Reports

||||| The three Gladstone LNG plants are likely to increase Australia's emissions in the order of 0.4 Mt CO₂-e from gas consumed to power the liquefaction process, for every 100PJ of coal seam gas supplied to the plants.

Petroleum

||||| Road transport and mining consumption of diesel increasing at an annual compound rate of 4.6% adding 7.6 Mt CO₂-e (1.4% of total emissions).

The March 2016 Carbon Emissions Index (CEDEX®) Report by pitt&sherry and The Australia Institute (TAI) indicates that electricity generation continues to be the greatest contributor to emissions, principally through black and brown coal generation, while gas generation decreased slightly and renewable sources remained relatively unchanged. The use of black coal generation has increased slightly, but has been offset by decreases in brown coal.

Petroleum and in particular diesel, along with electricity generation, is a significant contributor to the increased growth in emissions with road transport and mining applications producing the weight of the CO₂-e emissions. Road transport encompasses truck freight, light vehicles (cars) and buses where diesel is the primary fuel. In mining the major use of diesel is for excavation and in-mine haulage equipment. Most of the rail systems transporting minerals from mine to port are also fuelled by diesel.

The full report is available at <http://www.pittsh.com.au/cedex/>

FIND & COST YOUR NEXT PROJECT

Get **15% OFF**
when you
mention **AIB**

*Conditions Apply

New business leads
More accurate estimates
Better market insights

The Cordell construction and costing tools from CoreLogic can help you see the projects going on in your local area, find your next job without the need to advertise and create an estimate and quote accurately in a fraction of the time.

Use the power of Australia's best construction data to grow your business.

Call us: **1800 941 141**
contact.cordell.com.au/aib

Terms & Conditions: Discount applies to new clients only for Cordell Connect or Cordell Estimator products. Cordell is a CoreLogic company. Full terms www.corelogic.com.au/cordellterms.

Cordell[®]
A  CoreLogic[®] Business



NEWCASTLE LIGHT RAIL REPORT AND EXPANSION OPTIONS RELEASED

The Newcastle community can have its say on plans for light rail through the city centre to the beach, with the release of a key planning document for public comment.

Potential options have also been outlined for the future expansion of the network.

Parliamentary Secretary for the Hunter Scot MacDonald said the options being investigated could link the city centre to key destinations such as Broadmeadow's Hunter Stadium, the University of Newcastle, Glendale and the John Hunter Hospital.

"This is the first look at potential routes for an expanded light rail network to connect major activity centres and suburbs in Newcastle," he said.

Mr MacDonald said a Review of Environmental Factors report (REF) for the current project was now on display online and at city locations, along with the future network update.

The REF report sets out the scope of the light rail project between Wickham and Pacific Park, potential impacts during construction, and a suite of mitigation and management measures.

It also spells out changes to some road intersections, bus stops and parking in certain areas to accommodate light rail operations and ensure the smooth flow of traffic.

In addition, the NSW Government is compiling a package of further road improvements for the city that would remove current pinch points and complement transport initiatives.

Parking loss on Hunter Street is also an issue raised in the planning document and Newcastle Coordinator General Anna Zycki said she will work closely with stakeholders on how this can best be addressed.

"We need to better understand what type of parking people want in the CBD, whether it be short term, long term, loading zones, disability parking, and where that parking is best located," said Ms Zycki.

Over coming months, a parking strategy will be prepared, in consultation with Newcastle City Council, businesses and other key stakeholders.

The REF report flags that further work will be done on strategies for urban amenity improvements to ensure the streetscape is attractive and accessible.

Mr MacDonald said: "The NSW Government is committed to improving the urban amenity of the city and integrating transport with the renewal projects planned across the city. The Coordinator General's role is to continue to work with stakeholders and the community to achieve the revitalisation vision for Newcastle."

Ms Zycki said: "I urge residents to review the report to learn more about this important light rail system coming to Newcastle and share their thoughts and suggestions."

A submissions report will respond to all feedback before a final design is completed. Major construction would start early next year and services would start in 2019.

For future light rail, 10 options are outlined, including links to suburbs such as Mayfield, Merewether, Adamstown and a loop through the Hunter Street Mall.

To view the documents, visit www.revitalisingnewcastle.com.au. The REF will also be available at:

- Newcastle City Branch Library – Ground Floor, Laman Street, Newcastle
- Newcastle City Administration Centre – 282 King Street, Newcastle
- Hamilton Library – 44 James Street Hamilton
- Transport for NSW – Ground Floor, 239 King Street, Newcastle
- Transport for NSW – Level 5, 821 Pacific Highway, Chatswood

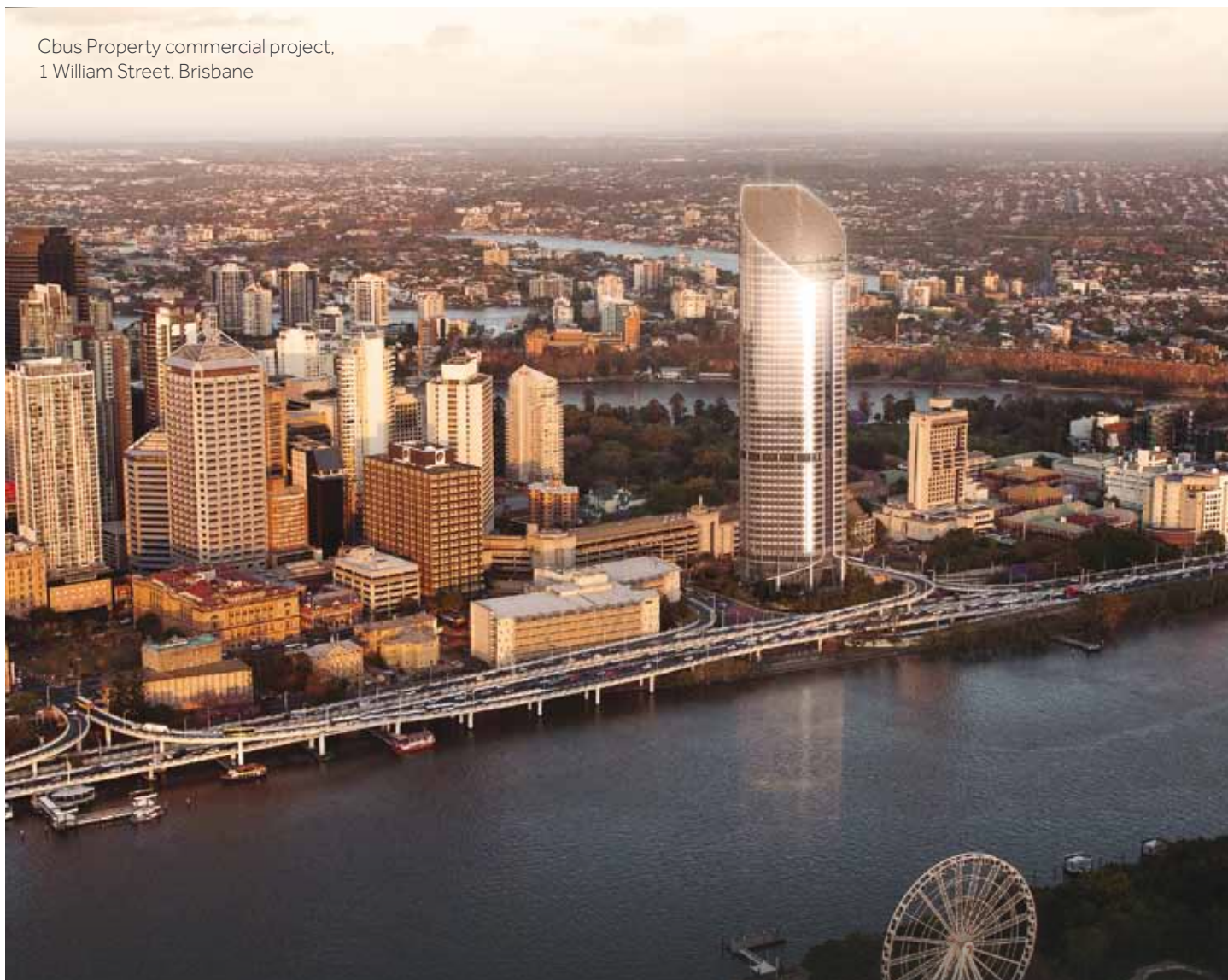
AIB MEMBERS WILL RECEIVE THE CONSTRUCT MAGAZINE AS AN E-BOOK!

AIB members will now receive the quarterly AIB Construct Magazine as an e-book.

If you would like to keep receiving the Construct Magazine in the mail, you will need to opt-in or request for this service. Simply log into the member-only page, on the AIB website www.aib.org.au and select 'Manage eNews Subscriptions' and tick the box that says 'Receive by Post' for the Construct Magazine.

If you have any questions, please contact membership@aib.org.au

Cbus Property commercial project,
1 William Street, Brisbane



3 ways Cbus is building super futures in Australia

1. Investing in property and development projects through our wholly owned subsidiary Cbus Property¹, creating jobs and delivering returns
2. Easy administration for employers, with online options to join Cbus and pay employees' super
3. Industry-specific super products for members, including insurance cover, financial advice and free access to the Cbus smartphone app



1300 361 784



www.cbussuper.com.au



cbusenq@cbusmail.com.au

¹ Cbus Property Pty Ltd is a wholly-owned subsidiary of Cbus and has responsibility for the strategic performance and management of all Cbus direct property developments and investments.

This information is about Cbus. It doesn't take into account your specific needs, so you should look at your own financial position, objectives and requirements before making any financial decisions. Read the relevant Cbus Product Disclosure Statement to decide whether Cbus is right for you. Contact **1300 361 784** or visit www.cbussuper.com.au for a copy.

Cbus' Trustee: United Super Pty Ltd ABN 46 006 261 623 AFSL 233792 Cbus ABN 75 493 363 262.

GROWING TREND FOR COUNCILS TO SELL PLANNING DECISIONS THROUGH VALUE CAPTURE

The Urban Taskforce is concerned about a growing trend across Sydney councils to adopt policies that change planning rules as a mechanism for raising funds for infrastructure.

"The trend by Sydney Councils to formalise Value Capture policies seems to be escalating across Sydney," says Urban Taskforce CEO, Chris Johnson. "While flexibility is needed in determining good planning outcomes the new policies seem to be driven by the need to raise funds for infrastructure."

"The NSW government has a clear system for raising infrastructure contributions by local councils under Section 94 of the Environmental Planning & Assessment Act 1979, which has safeguards that set maximums and IPART overview. The trend towards Value Capture seems to be a way of getting around the cap on Section 94 contributions."

"The NSW Department of Planning in 2005 issued a Practice Note on Development Contributions and the rules regarding the Voluntary Planning Agreements. These rules made it clear that 'planning agreements must be governed by the fundamental principle that planning decisions may not be bought or sold' but ten years on councils seem to be exploiting the guideline to now formalise policies to sell off extra floor space as a way to raise funds. This is encouraging councils to keep their development controls low in order to ensure that more revenue can be raised by requiring developers to 'buy' additional density and height."

"On the 14th December 2015 Parramatta City Council adopted Value Sharing Mechanisms 'where existing FSR (Floor Space Ratio) controls remain in place and additional FSR controls can be achieved by sharing 50% the value of the uplift' with the council. In effect planning decisions can be bought through significant funding to the council"

"On the 17th February Woollahra Council exhibited a Voluntary Planning Agreement Policy with land value capture as 'a public financing mechanism' where 50% of the uplift in land value created by changing the planning rules went to council."

"On the 23rd February Burwood Council resolved to adopt a monetary contribution rate of \$1,100 per square metre of gross floor area for bonus development above the current planning rules."

"It seems that Sydney Councils are loosening the planning rules in a drive to raise revenue by trading more height and density for significant payments to councils. While there will be individual projects, particularly on large sites, where a win win will occur, the Urban Taskforce is concerned that the concept of value capture is now becoming a standardised practice to buy and sell planning decisions."

"Councils are now factoring in revenue raised from planning agreements into their infrastructure funding plans. This demonstrates that councils are deliberately gaming their development controls in order to obtain long-term income streams. The development contribution system under section 94 of the EP&A Act are intended to fund local infrastructure, and councils are 'double dipping' by demanding additional payments."

"The Department of Planning must reissue its 2005 guideline on Development Contributions in relation to Voluntary Planning Agreements to clarify policy in this area."

COMMISSION TARGETS UNLICENSED BUILDING WORK ON COAST

Targetted compliance audits on Gold Coast building sites during the past two months have uncovered 26 people engaging in illegal building activity.

Queensland Building and Construction Commission (QBCC) audits found 22 people allegedly performing unlicensed building work and four instances of builders allegedly engaging unlicensed workers.

QBCC Acting Commissioner Kellie Lowe said compliance officers from the QBCC conducted 589 interviews at 153 Gold Coast construction sites on five days in February and on three days earlier this month.

She said the results should serve as a warning to home and property owners to ensure they only ever engaged licensed contractors to perform building work and to ensure an appropriate contract was in place.

"For their peace of mind, home and building owners can conduct a free online licence search on the QBCC website to see if a person is licensed, and to check the full history of the licence.

"They can also speak with a QBCC staff member 24/7 to check if a person is licensed or to ask questions about any aspect of the building process."

Ms Lowe said the audits reflected the QBCC's determination to ensure proper building standards were maintained and that licensees were not disadvantaged by the work of unqualified and uninsured individuals.

Unlicensed individuals face fines of \$2,356 each, and builders who engage an unlicensed worker could be fined \$942.

Media contact: Brian Bolton
Manager, Communications
Queensland Building and Construction Commission
brian.bolton@qbcc.qld.gov.au
Phone (07) 3613 3200

Advanced Protection whatever the weather

AcraShield® Advance provides high build barrier protection against weathering, masonry expansion & contraction cracking and concrete cancer.

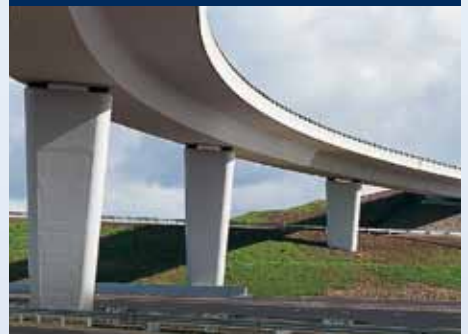
Weather Resistant



Crack Bridging



Anti-Carbonation



AcraShield® ADVANCE

For further information go to acratex.com.au
Dulux Customer Service: 13 23 77



ULTRAfloor®

THE PERFECT SOLUTION FOR CAR PARK STRUCTURES

**Woolworths Head Office Car Park,
Norwest Business Park, Bella Vista NSW**

Property Owner - Mirvac

Builder - Buildcorp

Architect - Nettleton Tribe

Engineer - Acor Consulting

Ultrafloor Footprint - 23,000m²

Structure - 4 levels (3 suspended)



Multi-level staging, Ultrafloor 250C beams with metal infill

Woolworths Head Office Car Park, Norwest Business Park, Bella Vista NSW

Until the mid-1990s the Bella Vista area was primarily used for small-scale agriculture but today it is home to a mix of prestigious residential pockets and a busy business district. At its commercial heart lies the Norwest Business Park which incorporates retail, commercial, industrial and hotel developments.

In 2006, Woolworths consolidated its corporate headquarters into a 100,000m² office complex in Norwest Business Park, joining fellow corporates ResMed, AAMI and the RBA in calling this area home. Carparking for employees is a high priority for corporates in this precinct with competition for spaces a hotly contested daily ritual.

Many factors influenced decisions about the construction of a purpose built facility for Woolworths employees not least of which was the need for a fast build of the car parking facility as this was a crucial element in minimising disruption for staff and also for the local traffic flows which are heavily congested throughout the morning and afternoon peaks.

Ultrafloor was chosen as the preferred structural system and was actively involved with the D&C Contractor, Buildcorp during the design phase and throughout the tender period where the Ultrafloor scheme was heavily favoured due to the buildability and budget efficiencies it provided.

*... up to 800m² of the finished Ultrafloor system was installed
by just 8 men and crane crew in a single day ...*

To meet the specific challenges of this project Ultrafloor designed a table-formed PT banded solution with the Ultrafloor 250C/1270 System for the floor slab. The curved ramps did not form part of the Ultrafloor scope for this project.

The systematised nature of Ultrafloor allows for extremely fast installation rates and on this project in excess of 800m² of the finished Ultrafloor system was installed by just 8 men and crane crew in a single day.

The column layout called for a carpark grid of up to 10.8m allowing four car spaces, with cantilevered bands of up to 3m.

Ultrafloor was chosen for their demonstrable ability to meet tight programmes, their extensive experience with car parking structures and the cost effectiveness of the Ultrafloor solution.



Four car grid spans and minimal propping allows early access for following trades



Ultrafloor slab with table-formed PT band beams



THE ULTRAFLOOR SCHEME CONSISTED OF:

- Table-formed PT bands typically 1800 x 400 spanning up to 10.8m.
- Ultrafloor 250 Commercial beams were used for the slab spanning 8.4m.
- Average Concrete depth of 140mm to the Ultrafloor slab footprint with the overall floor zone being typically 330mm or 400mm deep.

ULTRAFLOOR ADVANTAGES:

- Complete in-house design, manufacture and installation service
- Speed of installation (up to 800m² per day) – see video on the Ultrafloor website
- Optimal WHS outcomes achieved
- High quality suite of co-ordinated project drawings
- No formwork stripping
- Safe clean working deck, clutter free site
- Less rubbish and waste
- Less site labour
- Less concrete
- Less reinforcement steel
- Comprehensive co-ordination with other consultants
- Manufacturer's guarantee

Ultrafloor can offer the maximum advantages when considered early in a project's development. The team at Ultrafloor is happy to assist even at concept stage in order to provide maximum value, efficiency and sustainability benefits in the design developed for your project.

ULTRAFLOOR®

GROWING APPRENTICE DEMAND IN QUEENSLAND'S CONSTRUCTION INDUSTRY

The demand for apprentices in Queensland's construction industry has increased by more than 54% over the last decade according to a new report from Construction Skills Queensland (CSQ).

According to the CSQ 2016 Apprentice Annual, the apprentice intake rate was 4.1 apprentices per hundred workers in 2015. This figure is up from an intake of 2.7 per hundred in 2006.

With the exception of WA, Queensland's apprentice growth outpaced all other states in this period.

The report also reveals that the construction industry took on more apprentices in 2015 as a proportion of its workforce than any other major Queensland industry.

CSQ CEO Brett Schimming said construction employers should be commended for supporting apprentices and trainees during a challenging time for the industry.

"Despite the Global Financial Crisis and slowdown in the resources sector, the demand for apprentices in the Queensland construction industry is consistent and strengthening," he said.

"From 2006 to 2015, the number of qualified construction workers created by the apprenticeship system more than doubled.

"This is a credit to the industry which has recognised the importance of not only attracting new workers, but taking measures to retain existing apprentices.

Brett added that CSQ has been working hard during the past decade to establish a strong training culture in the Queensland construction industry.

"We have run a number of successful programs which have helped students find a pathway into construction, funded targeted training programs to help build careers and retain workers in the industry and worked closely with contractors on major projects to

ensure training is at the centre of workforce planning," he said.

The report shows that the largest growth in apprentices has come from heavy and civil construction, with this sector now accounting for four times more apprentices than in 2008.

This result is remarkable given engineering construction work has fallen over this period. Meanwhile, the amount of residential work has increased. CSQ expects this trend to continue over the coming years.

Mr Schimming concluded that the industry was well placed to adapt to this change.

"When we experienced a construction boom in the mid 2000's we were not prepared for the demands on our labour force and the industry experienced a skills shortage," he said.

"We are now in a much stronger position to respond to a spike in industry activity. The heavy engineering boom years delivered a very capable and experienced pool of tradespeople who stand ready to meet the labour needs of current projects."

"Our continued commitment to attracting talented people into the industry - and upskilling them throughout their careers - will ensure Queensland has a pipeline of skilled workers to meet future workforce needs."

HELPING TO UPSKILL TASMANIA'S NEXT GENERATION OF BUILDING LEADERS

The Hodgman Liberal Government is committed to supporting our building and construction industry to grow and to create jobs.

I am pleased to announce that we are investing in training the next generation of leaders in a sector that employs about 16,000 Tasmanians.

Through our Skills Fund Special Release Program, we are providing three grants totalling \$122,990 to support 34 training places for leadership courses relevant to the industry.

The Housing Industry Association will receive a little more than half the funding to support 14 places in the Diploma of Building and Construction.

This will help address skills shortages within the industry, not only among licensed builders but also at the project manager level.

Importantly, the course provides the required training to allow building practitioners to obtain a Medium Rise Licence in Tasmania.

Similarly, Jenard Training and Personnel and Learning Partners Pty Ltd will receive funding to deliver Certificate IV and Diploma training places in leadership and management and project management respectively.

Both grant applications were supported by the Tasmanian Building and Construction Industry Training Board.

Figures released last week show that Tasmania's building industry is benefiting from strong growth in the value of new construction work, while the State recorded the second highest increase in the country in new dwelling commencements (up 18.8 per cent) in 2015.

Separate data, also from the Australian Bureau

of Statistics, pointed to more Tasmanians, and particularly more first home buyers, committing to housing loans.

And the latest Deloitte Access Economics Business Outlook, released on Monday, showed that Tasmania is "clawing its way back", helped by a strong rise in housing and commercial construction.

While this is evidence of growing confidence in the State's economy and in our building industry, we know we have more to do.

That's why we are reforming building legislation to cut the red tape that is holding back development and make gaining approvals fairer, faster, simpler and cheaper.

And it is why we are working with the industry and training providers to help deliver the skilled workers that we need now and into the future.



Building Commercial Value.



Optimisation & Buildability

OneSteel Reinforcing has a team of engineers that will assist you to minimise cost by optimising the steel usage; while retaining all-important buildability so the project remains on schedule.



Detailing & Scheduling

Accurate and timely scheduling is crucial in keeping a project running smoothly. OneSteel Reinforcing has highly skilled and experienced scheduling teams across Australia that are available to ensure your project stays on track, on-time and trouble free.



Purpose-fit Prefabrication

Offsite prefabrication offers numerous benefits, ranging from minimising onsite risks to workers, to earning Green Star rating points for your project. OneSteel Reinforcing offers the best in prefabricated products and service.



Project Management

We know the critical importance of keeping strict control of a project's costs, logistics and supply chain. OneSteel Reinforcing has dedicated project managers to work with your team to manage the changes while keeping everyone informed and the project on schedule.



Logistics Management

We look at the details such as how prefabricated elements need to be lifted and handled, have lifting points been certified, do loads have to be pre-slung before they leave the yard and, if so, how and where? By understanding and managing every requirement, we can save time and reduce risks onsite.



Safety & Risk Management

Our customers call on us to solve their problems; not create them. Our team members take no chances on safety and we ensure our onsite and product handling safety procedures align with yours to eliminate confusion and minimise risk.

To discuss your next commercial project, call us today on **1800 ONE REO (1800 663 736)**.

onesteel
reinforcing

reinforcing.com

STRAMIT PAVES THE WAY FOR BUILDING MANUFACTURERS WITH NEW BUILDING INFORMATION MODELLING STRATEGY

Stramit Building Products is paving the way for manufacturers in the construction industry by creating a virtual 3D library of its products through innovative Building Information Modelling (BIM) technology. Whereas existing BIM software has relied predominantly on generic content, PlusSpec by RubySketch is a new 3D CAD design and estimating BIM software that easily facilitates manufacturer's products to be used in virtual 3D environments.

Having launched in January 2016, Stramit has become the first steel roofing supplier to adopt this Virtual Design & Construct (VDC) technology, so that professionals in design and construction will have access and use of its virtual products.

While architects have been using BIM technology increasingly over the last decade, manufacturers are now starting to embrace it. "That Stramit has invested in BIM shows real market leadership, as there are great opportunities for manufacturers who invest in the technology," says Andrew Dwight, Business Development Manager at RubySketch. "A well structured digital library of actual products is needed for the design and construction industries," Andrew continues.

RubySketch is an Australian Tech Consultancy Company that also hosts a free online library of real, virtual building products. When used in conjunction with PlusSpec, the 3D online library means that architects, designers and builders will be able to design and quantify projects using actual products from Australian manufacturers. This user-friendly library means that products can be simply dragged and dropped directly into a project, so there is no need to create and maintain an independent library.

PlusSpec allows anyone, from an architect to the owner builder, to understand how each product looks, works and interacts. This technology enables Stramit to have its products and ranges available to be virtually designed in conjunction with other products. PlusSpec also means that builders are able to perform itemized bills of quantities, and allows architects to create accurate feasibility studies.

John Bull, Stramit's National Marketing

Manager, recognizes the value of PlusSpec for the industry. "PlusSpec is a solution the industry has been waiting for. Now anyone can specify our products" he says.

PlusSpec is suitable for any sized projects, from small, bespoke tasks, to large projects.

Key benefits of PlusSpec for Stramit Customers:

Architects and Designers

- Ability to design with "real" Stramit® products, and not just a representation of colour and texture.

- Allows Stramit® products and the Colorbond® range to be designed virtually in 3D, just as it would be constructed on site. This enables 3D details to be easily created to clarify complex conditions.

- Ability to generate feasibility studies, with no extra work.

Builders

- Ability to create a 3D roof with Stramit® products in seconds (including the structure), with simply a few clicks of a mouse.

- Ability to automatically estimate the quality of building products required, including: roofing, guttering, fascia, valley, and down pipes.

- Other benefits include: communicating with subcontractors, error reduction and potential error when interpreting specifications.

Homeowners

- Homeowners will be able to see what the Stramit® products look like on their home and to walk around their home in virtual 3D, long before it has been built.

The PlusSpec BIM & Estimating technology has been created by RubySketch, and is used in conjunction with SketchUp. For more information, please visit their websites:

www.plusspec.com (3D BIM & Estimating software)

www.rubysketch.com (FREE online 3D building product library)

Innovative construction technique delivers latest milestone at ICC Sydney in Darling Harbour

The transformation of Darling Harbour into one of the world's best places to live, meet and be entertained is continuing at an impressive pace, with erection of the final section of the 102m long roof structure of ICC Sydney (International Convention Centre Sydney) Exhibition now complete. The entire roof is larger than the field at the Sydney Football Stadium.

This tremendous milestone in the project used an innovative construction method called strand jacking. This was one of the largest strand jacking operations to occur in Sydney. Strand jacking uses hydraulic jacks to lift very heavy loads and it's mostly used on bridges, aircraft hangers and stadiums. This is a very effective solution for substantial lifts as the roof structure is assembled on the floor and lifted as a whole structure. This not only reduces the equipment requirements but also significantly improves safety as it reduces working at height.

Around 3,400 tonnes of steel and roofing was erected in two separate lifts; the first 1,400 tonnes and the second 2,000 tonnes requiring approximately 2,000 man hours with 1,400 hours on ground preparation and 600 hours for the jacking over a four day period.

With over 16,500 tonnes of steel in ICC Sydney this is one of the largest structural steel building projects in Sydney.

Lendlease's Australian Managing Director, Building, Dale Connor said, "At Lendlease we are continually looking for ways to innovate our construction methods. Due to the sheer size and complexity of this operation, this was a really interesting challenge in how to effectively construct and lift the roof safely as well as on program.

"I am extremely proud of the team for identifying and implementing this complex engineering solution that has allowed us to limit the amount of work done at height while effectively and efficiently lifting the roof.

"We are delighted to be responsible for this important project for Sydney and New South Wales, and to be working with the State Government, particularly Infrastructure NSW on delivering an impressive new world class convention, exhibition and entertainment precinct for the public to enjoy. It is a very exciting time as we are now so close to completion of the transformation of Darling Harbour where people will be able to enjoy these wonderful facilities and public spaces."

On schedule to be completed in late 2016, the project is being developed through a Private Public Partnership with the New South Wales Government and Darling Harbour Live (comprising Lendlease, HOSTPLUS, Capella Capital, AEG Ogden and Spotless).

The project is the centrepiece of a \$3.4 billion 20 hectare redevelopment of Darling Harbour that includes Australia's premier integrated convention, exhibition and events destination, International Convention Centre Sydney (ICC Sydney), reinvigorated and expanded public spaces, as well as the luxury ICC Sydney Hotel and a new city neighbourhood Darling Square, separately being delivered by Lendlease.

Media Contact: Corinne Cowlishaw 02 9237 5315, Iwona Falkner 02 9237 5034

Save up to 20% on steel with **Stramit Exacta®** purlins



Using the **Stramit Exacta®** optimised purlin system with the **Stramit EX-facta™** design software, can reduce your purlin steel costs up to 20% on large commercial projects.

The **EX-facta™** program uses our exclusive purlin moment capacity design method. It's the fast, easy way to design optimised purlin sections, even with irregular configurations and complex loadings.

The **EX-facta™** program displays nominal section efficiencies within each span. You can see critical and over-designed sections at a glance.

Contact Stramit Building Products for a copy of the **EX-facta™** software or visit our website for more information on **Exacta®** Purlins.

www.stramit.com.au



Galvaspan®

©Trademark of Stramit Corporation Pty Limited ABN 57 005 010 195.
Trading as Stramit Building Products. A member of the Fletcher Building Group. Galvaspan is a trademark of BlueScope Steel Limited.



EX-facta™ software:

- Mix spans of any length
- Change lap lengths
- Mix section thicknesses
- Vary loads within spans
- Reposition bridging

Stramit
Building Products

PIMP YOUR NOTEPAD WITH WACOM® BAMBOO SPARK

Moving towards a paperless society is great for some, but there are still many of us that love that feeling of pen on paper, prompting us to capture, shape and share our inner most thoughts and ideas. The downside is that we can easily lose those important hand-written notes or not have the time to flick through our notebooks to refer back to them. Allowing for traditional input with the power of digital output, Wacom®, a world leader in digital technology, has just launched the Bamboo Spark which lets you write on paper and save digitally.

Bamboo Spark brings note-taking into the 21st century and marries the tactile joy of a traditional ink pen with digital pen technology in a smart pen and smart folio, allowing users to write and sketch on most A5 (148 x 210 mm or 5.83 x 8.27 inches) paper. The smart folio's EMR (Electro-Magnetic Resonance) board communicates with the pen and offers proven, near-perfect digital input.

With the push of a button, Bamboo Spark synchronises whatever has been written or sketched to your smart device for fast, simple editing and sharing. From there it is synced with the Wacom Cloud, so no idea is ever lost.

The in-built search function allows you to retrieve all handwritten notes on a selected topic saving time and frustration. All your notes are available from your smartphone or laptop, accessible anytime you need them, meaning you can bin your old notepads!

One of the best functionalities the Bamboo Spark offers is that handwritten notes can also be converted to text for placing in emails or other office applications such as Evernote and OneNote. The handwriting to text function also provides advanced search capabilities, allowing one to search by single words, phrases or stings of text

from the Bamboo Spark app.

"Bamboo Spark powers up the authentic pen and paper experience with the digital features you use every day on your smartphone, tablet and computer. It is the perfect solution for anyone who appreciates the freedom and simplicity of working with pen on paper to take written notes and share ideas," say Shane Cook, Managing Director, Wacom Australia.

"Whether a busy professional, connected student or passionate hobbyist, Bamboo Spark goes where you go. From note-taking in the boardroom to sketching out a project, the Bamboo Spark provides a simple way to capture your concepts on paper and with the push of a button, effortlessly move your ideas to the cloud for editing and sharing."

The getting started process is incredibly user-friendly. Simply download the Bamboo Spark app on an iOS or Android device with Bluetooth® Smart technology. Next, pair the device with the app and start making ideas happen. Every stroke is saved within the app by simply pushing

the button in the centre of the device, saving up to 100 pages even in offline mode.

Notes and sketches can be edited in the Bamboo Spark app or exported to Bamboo Paper, Evernote or Dropbox. Bamboo Paper offers a more robust editing experience allowing users to further enhance their digital work thanks to WILL™ universal ink. WILL, the Wacom Ink Layer Language, is a soon-to-be industry standard that offers handling of pen input (strokes) regardless of software, hardware or operating system.

The hub for all creative thoughts, notes and sketches is Inkspace. Inkspace is a web portal that allows users to see and organize their content in one place, also accessible from desktop or laptop computers. Files can be saved in .WILL, .jpg or .pdf format.

For more information on Bamboo Spark, please visit the Wacom e-store - <http://www.wacom.com/>.





Rinnai – Customised hot water solutions to meet your building design criteria

Drawing from over 40 years' experience in designing and manufacturing hot water systems our commercial division has supplied solutions to many challenging projects. Knowledge gained from these projects tells us that providing a hot water plant to meet a set delivery requirement is simply not enough anymore. The look and feel of the building, whether a new build or a renovation, is of utmost importance and the hot water plant must not compromise this yet still provide each hot water outlet with a constant supply of hot water. Modern and highly efficient water heating systems are modular and use multiple gas fuelled continuous flow units.

This provides a challenge when the plant is situated internally as many flue terminations would deter from the aesthetic feel of the building. Working closely with architects and hydraulic consultants we design and manufacture common flue, whether natural draft or fan assisted, to provide one single discreet termination point.

Our goal is to offer a complete service from concept to commissioning to maximise energy efficiency and reduce up front capital costs. Rinnai centralised gas hot water systems are easily integrated into the building with minimal fuss yet easy access for future serviceability.

☎ **Phone 1300 555 545**
rinnai.com.au/commercial

Rinnai
 Relax. It's a Rinnai.



AFS WALLING SOLUTIONS ACHIEVES CODEMARK CERTIFICATION

Providing even greater peace of mind

Australian walling system manufacturer AFS Walling Solutions has taken another major leap forward, with its LOGICWALL® system achieving CodeMark certification. This reinforces that the product complies with the National Construction Code (NCC)* and AS3600-2009 (Concrete Structures) and evidences its suitability for use in the design of a concrete structure.

"This single certificate of conformity will save architects, engineers, builders, specifiers and certifiers valuable time in ensuring LOGICWALL® is fully compliant and fit for purpose – benefiting key stakeholders at every stage of a construction project," says AFS Technical Manager Dr Adnan Malik.

AFS is a division of building products leader CSR, and its decision to undertake CodeMark certification was also about continuing its parent company's tradition of constantly refining the company's internal processes, providing peace of mind for clients and continuing to show leadership within the construction industry.

Prior to receiving CodeMark certification, users of AFS LOGICWALL® had to review significant documentation, test certificates and reports to confirm it complied with the National Construction Code (NCC) and AS3600-2009 (Concrete Structures) – a time consuming process.

"Achieving CodeMark certification means that individual durability, fire resistance, weatherproofing, acoustic and thermal

performance test documentation is now confirmed in a single overarching, universally accepted document, which will mean considerable time savings for clients," Dr Malik says.

"The end-to-end nature of the CodeMark certification means users can specify the LOGICWALL® system with complete confidence that it complies with all relevant aspects of the National Construction Code (NCC) and AS3600-2009 (Concrete Structures). Another key advantage is that the principle certifier must accept that the product complies with all the relevant standards, which is of great benefit to the client.

"At AFS we have focused on designing an innovative, compliant product to meet the requirements of the building community – and this certification bolsters that."

CodeMark is an independent building product certification scheme administered by the Australian Building Codes Board. It supports the use of new and innovative building products by providing a nationally and internationally accepted process for them to be assessed for compliance with the requirements of the building codes of Australia.

AFS's LOGICWALL® system is a permanent formwork system for concrete walling for external and internal applications. Hard-wearing fibre cement sheets are bonded to galvanised steel stud frames to create lightweight sandwich panels that are used in multi-level construction projects.

The system has been used in landmark projects around the country, including the Enoggera Barracks in Queensland; the award-winning Condor Tower in Perth; the multi award winning Stella Apartment development in Success, WA; East Quarter in the Sydney suburb of Hurstville; and the Lilyfield Housing Development in NSW,

which was the first multi-unit residential development in Australia to achieve a 5-star rating and the first social housing scheme in the country to gain a Green Star rating.

Key points of the CodeMark certification:

||||| CodeMark certification is administered by the Australian Building Codes Board (ABCB).

||||| Certification of AFS LOGICWALL® was achieved as a result of a rigorous three-month evaluation process that included a comprehensive review of production processes, site inspections, installation and independent testing.

||||| LOGICWALL® certification has been achieved end-to-end, from manufacture to installation.



LOGICWALL® certification confirms its suitability for use in the design of a concrete structure.

It offers peace of mind to all stakeholders in the design, construction and certification process

*Note: The National Construction Code (NCC) comprises the Building Code of Australia (BCA), Volume One and Volume Two; and the Plumbing Code of Australia (PCA), as Volume Three.

Media contacts:

Jenny Westdorp
 Llewellyn Communications
 T: 02 9970 5313 m: 0413 334 425
 E: jenny@llewcom.com.au

Belinda Hill
 Llewellyn Communications
 m: 0438 206 609
 belinda@llewcom.com.au



TITAN CRANES & RIGGING PTY LTD

TOWER CRANE RENTAL AND SALES



**PROVIDING SPECIALIST STATE-OF-THE-ART LIFTING EQUIPMENT AND
LABOUR TO AUSTRALIA'S BIGGEST CONSTRUCTION PROJECTS**

Tower crane hire • Tower crane sales (new & used) • Man/Materials hoist hire
 Man/Materials hoist sales • Rigging services • Mobile cranes to 350T

Branches Sydney - Canberra - Brisbane - Adelaide - Perth - Melbourne | Phone 1300 30 40 52 | www.titancranes.com.au

BUILT EXCEEDS ALL GREEN EXPECTATIONS AT 20 MARTIN PLACE, SYDNEY

Award-winning construction company, Built, has outstripped the Green Star target for its \$110 M refurbishment of 20 Martin Place, Sydney. The company was contracted to deliver a 5 Star Office As Built v3 rating but instead targeted and achieved the As Built rating of 6 Stars at no extra cost to its client, Pembroke Real Estate.

While the 5 Star Green Star Office Design v3 pathway contemplated at early stages of design targeted 65 points, the project team quickly identified two additional Green Star points and 10 innovation points that could be implemented, without increased capital cost to the client.

The result is World Leadership status as a green building for the project, with a total point score of 77 points awarded by the GBCA during the Round 1 submission – a rare occurrence.

8 out of the 10 innovation points came from Innovation Challenges, including using 64% zero VOC paints, contractor sustainability education and materials life cycle assessment. An EN15978 compliant Life Cycle Assessment concluded that retaining the 22 storey structural steel frame within the building would save 1,291 tonnes CO₂e, while replacing 30% of cement with flyash would save 2,809 tonnes CO₂e. To put these figures in context, the building is projected to emit 107,000 tonnes of CO₂e emissions in operational energy use over the building's expected 60-year life. So initiatives that improved operational energy savings provided a key avenue for carbon abatement in the Life Cycle Assessment.

20 Martin Place is also one of Sydney's first commercial office buildings to be delivered with LED light fittings installed to all office floors. This has resulted in an average lighting power density of 1.34W/100 lux, or an 11% improvement on the most stringent Green Star benchmark.

In addition, the building features a 100% outside air system served via chilled beams at perimeter and VAV in its centre zone. 1.9L/min ultra-low flow basin taps throughout and 106-bike spaces with 13 low flow 6L/min showers help save water. Ultrasonic sensors in all fire stairs improve safety for all tenants and 95% of the waste generated in demolition and construction was diverted from landfill.

"We are very proud of the Green Star achievement at 20 Martin Place," says Built's Managing Director Brett Mason.

"For us, it also highlights the positive impact we're able to make when we are involved in projects from the very early stages. Early Contractor Involvement is our preferred method for working with clients to help them solve complex problems. In this case, Pembroke bringing us to the table in the project's early days created an opportunity for quite detailed research and innovation in construction processes which in turn elevated the number of Green Star points that were earned on the project. It is a great result for both Built and Pembroke," he said.

The 20 Martin Place project involved the complete reconstruction of the out-dated, 20-storey, 1970s office building, transforming it into a signature building in the heart of Sydney's CBD. The building's design strives to deliver optimum flexibility and cutting-edge, sustainable performance, including:

- ||||| A new high-performance glass façade with VLT of 49%, SHGC of 0.27 and U-values of 3.1 and 3.3 on main facades
- ||||| Side core design for more efficient and flexible floor plates
- ||||| Interconnectivity between floors
- ||||| New building systems, technology and services
- ||||| New end-of-trip facilities.



||||| Maximum daylight penetration.

The new A-Grade commercial office and retail space targets a minimum 5 Star NABERS energy rating and achieved a 5 Star Green Star Office Design v3 rating as well as a 6 Star Green Star Office As Built v3 rating.

Tenant comfort is further optimised by enhanced ventilation and air quality as well as maximised natural lighting and views.

In 2015, Built won a MBA of NSW Excellence in Construction Awards Site Safety – Commercial Projects \$50,000,001 & Over award for the project, in recognition of its exceptional work on the ambitious refurbishment. It was Built's fourth MBA Site Safety award, and the third safety award recognised in NSW.

For more information, please contact Kate Funnell at The Trish Nicol Agency on +2 9356 2711 or kate@trishnicolagency.com.au

Providing Steel Solutions

Cambering

Bending

Section Rolling

Laser/Oxy/Plasma Cutting

Beamline Cutting and Drilling

Coping

Bevelling

Plate Rolling

Heavy Duty Roll forming
(Standard & Customised)

Structural Sections, Merchant Bar, Plate, Pipe, Tube, RHS,
Colorbond, Rural and Building Products.

www.southernsteelgroup.com.au

Forecasts show passing booms, but no time for gloom

New building and construction industry forecasts released today chart the passing of two booms – in mining and residential – and the impact on this important sector of the Australian economy.

Australian Construction Industry Forum (ACIF) has released the latest ACIF Forecasts, revealing how the sector is coping with another double digit fall in engineering construction plus the impending peak of residential building.

“The May 2016 ACIF Forecasts re-chart the course of building and construction industry as it surfs the downside of tsunami-sized waves of investment,” said Kerry Barwise, Chief Economist for ACIF.

“The building and construction industry is playing a key role in the transition of our economy away from resources towards a more diversified economy.

“The industry has ramped up residential building following the once in a lifetime mining boom, but that too is now coming to an end.”

The May 2016 ACIF Forecasts reveal a second consecutive 5% annual fall in aggregate activity, reducing 2015-16 total construction activity by \$12 billion to \$212 billion.

These forecasts have also ground \$5-10 billion off the level of construction activity that was projected in each year over the next three years, largely reflecting a more stringent downgrade to the outlook in Engineering Construction following the mining boom and the expected dip in Residential Building. Residential builders are still working through an enlarged construction pipeline and building work is expected to top \$91 billion in real terms in 2016-17 before falling.

However, despite the sweeping changes and challenges, this is not the time for doom and gloom. Irrespective of the passing of booms in two major construction sectors, these forecasts also identify areas of construction activity that will assist an economy in transition.

Wherever activity is in support of the shift towards the new economy, innovation, creativity and the provision of key services, Non-Residential Building work is growing especially in the areas of Health and Aged Care, Accommodation and Retail/Wholesale Trade.

These conflicting trends are projected to turn around the modest contraction forecast in Non-Residential Building activity for this year into a small uptick next year and more fulsome growth – close to 3% per annum – by 2017-18.

These forecasts have also taken into account

a fundamental shift in the composition of Engineering Construction activity. Many of the largest new infrastructure projects are in areas that will enhance the delivery of key services and improve the mobility and liveability in Australia's cities, enhancing their role as major drivers of economic growth.

“Australian Construction Industry Forum (ACIF) is proud to provide the construction industry with the May 2016 ACIF Forecasts,” said Adrian Harrington, Chair of ACIF's Construction Forecasting Council.

“The building and construction sector contributes around 8% to GDP and is responsible for building the shelter and infrastructure for both our people and businesses that are the backbone of our economy. Our work facilitates the movement of people, goods and resources, fosters connectivity and communication, and allows the transmission of water and energy across this vast nation.

“With technology continuing to emerge at an unprecedented scale, our population growing and aging, and the economy transitioning from the biggest resources boom in over a century, it is more important now than ever before that the industry has a relevant and credible ‘compass’ for the next ten years. These Forecasts outline the upcoming

demand for work across the three key sectors – residential and non-residential building plus engineering construction, and the 20 sub-sectors they include, as well as what is happening with construction costs and labour requirements.”

ACIF Forecasts May 2016 - Highlights for each sector

Total construction activity will fall faster in coming years

Looking at all three major types of activity in the building and construction sector, total or aggregate activity fell in 2014-15 by 5% to \$225 billion. A \$6 billion increase in Residential Building was not sufficient to cancel out the \$12 billion fall in Engineering Construction.

A further fall of 5% is projected for 2015-16 reducing aggregate activity by around \$12 billion to \$212 billion.

The May 2016 forecasts have ground \$5-10 billion off the level of construction activity that was projected in each year into the next three years, largely reflecting a deeper dip in Residential Building and a more stringent downgrade to the outlook in Engineering Construction.

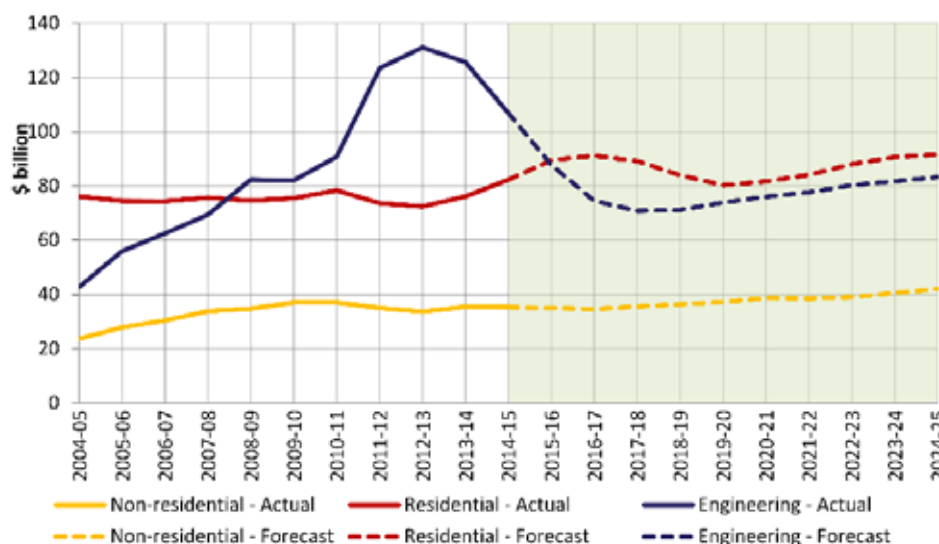
Rebalancing is changing economic geography

Queensland, the former leader in construction activity, and Western Australia, the state that previously had the most rapid growth in construction activity, are now projected to see deep declines in activity reflecting the end of the mining construction boom spreading into infrastructure and other supporting business categories.

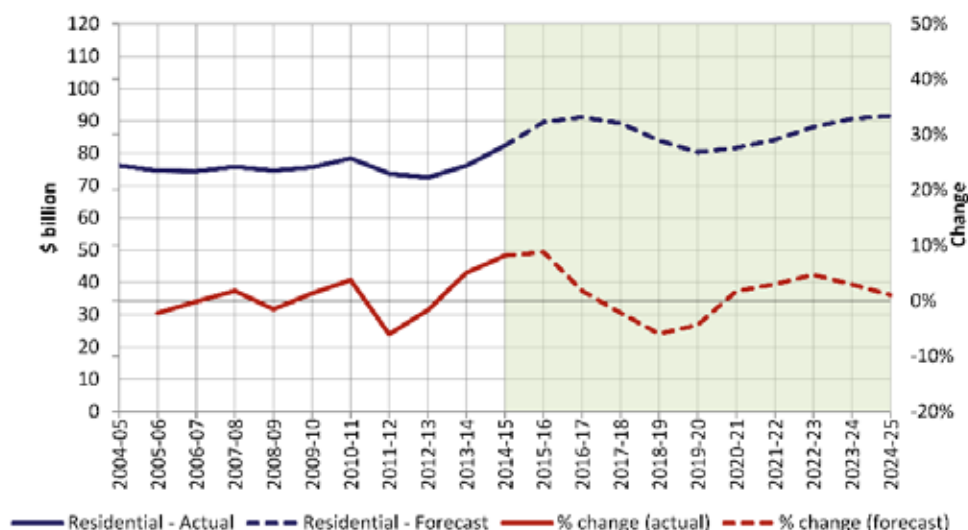
New South Wales is projected to become the new leader in construction activity in the States. It will climb to the front because it is at the forefront of rebalancing in its economy. Growth in Residential and Non-Residential Building is close to matching the large declines in Engineering Construction that are expected in the medium term.

Residential Building growth has peaked.

Leading indicators show that growth has



Total construction activity will fall faster in coming years



Residential Building growth has peaked

peaked in some sub-segments, particularly New Other Residential (Mainly Apartments and Townhouses) in some markets.

Buildings are still working through an enlarged construction pipeline and work is expected to top \$91 billion in real terms in 2016-17.

Growth is projected to slow and eventually slip into a decline, reaching a fall of 6% in 2018-

19, bringing work done down to \$84 billion in real term

Non-Residential Building growth is patchy.

Much Non-Residential Building activity is linked to the fortunes of non-mining business investment.

To illustrate the uneven impact of the transition that is underway it is notable that

New South Wales, Victoria and Tasmania saw growth in Non-Residential Building last year and are projected to see growth again in 2015-16 whereas the mining related states of Queensland and WA are expected to see subdued levels of activity in the next few years

The transition to growth will also be uneven between sub-sectors within Non-Residential Building. The May 2016 ACIF Forecasts have upgraded projections for Accommodation, Entertainment and Recreation and Retail/ Wholesale Trade but down-graded for Health and Aged Care and Offices, especially where this was in support of mining or mining related activity.

Engineering Construction is about to face further and deeper drops

Engineering Construction activity fell by 15% in 2014-15. Falls in activity spread beyond Heavy Industry Including Mining and include even deeper reductions in construction of Bridges, Railways and Harbours, Water and Sewerage and Electricity and Pipelines.

The May 2016 ACIF Forecasts have taken into account a fundamental shift in the composition of Engineering Construction activity. While mining and related construction is in decline, increased infrastructure construction is underway in Roads and Telecommunications, and there are further plans for major rail and light



**HAND
BOOK**

\$410

INC GST



**COST
GUIDE**

\$278

INC GST

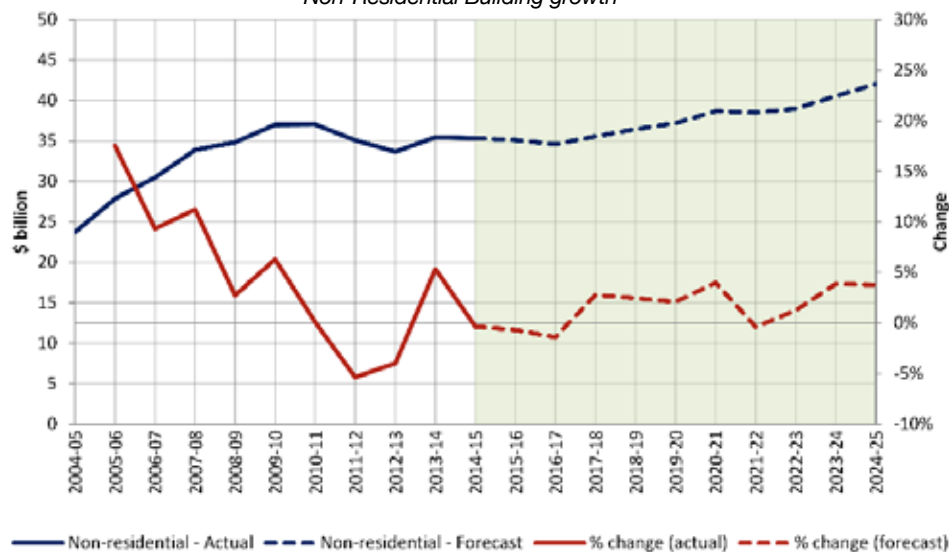
Rawlinsons

Keeping score on construction costs

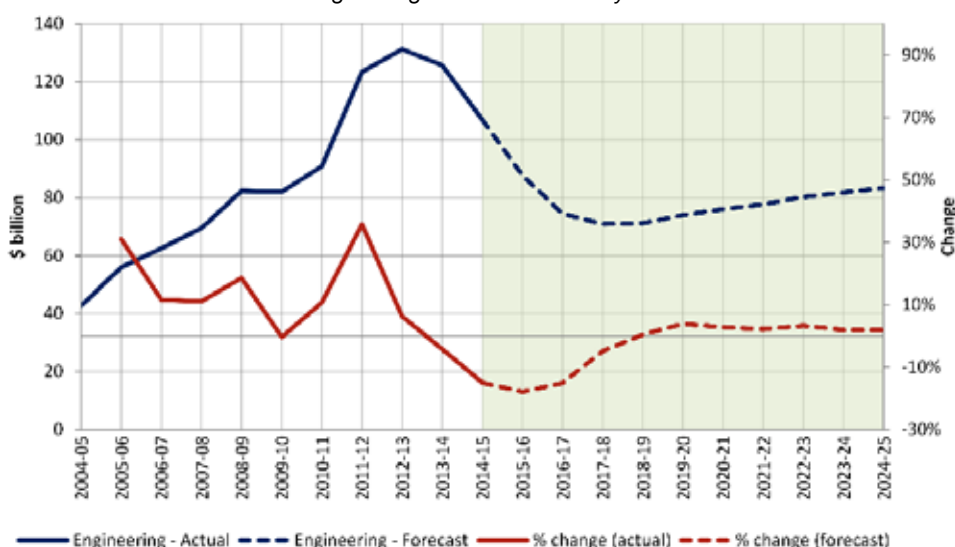
Rawlinsons Australian Construction Handbook and Rawlinsons Construction Cost Guide 2016.

AVAILABLE NOW. PHONE 1300 730 117 OR WWW.RAWLHOUSE.COM

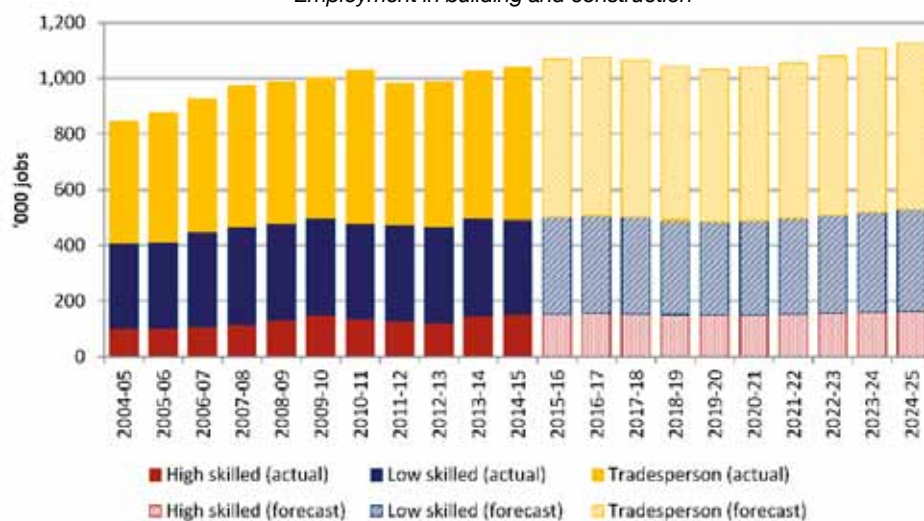
Non-Residential Building growth



Engineering Construction activity



Employment in building and construction



rail projects. Many of the largest new projects are in areas that will enhance the delivery of key services and improve mobility and liveability in Australia's cities, enhancing their role as major drivers of economic growth.

While these initiatives are substantial they will not fully offset the very large withdrawal of private sector investment in mining and related infrastructure. Revised forecasts indicate that Engineering Construction is only about a third

of the way into a projected 46% fall in activity that will bottom out by 2017-18.

The recent lift in Construction Employment will eventually slip and dip.

Employment in building and construction is expected to rise this year to 1.1 million jobs.

It appears that growth in labour intensive Residential Building has more than offset the decline in more capital-intensive and import-intensive Engineering Construction.

The industry can't defy gravity forever and a reduction in construction employment of 1% is forecast for 2016-17 as aggregate construction activity continues to fall and Residential Building growth levels out. Further falls in employment will be felt when Residential Building activity dips in 2017-18 and 2018-19.

Construction employment has been strongest in New South Wales, Victoria, Tasmania and the Northern Territory where around 60,000 additional jobs are expected in 2015-16. Construction employment in Queensland and Western Australia is projected to see sharp sustained falls. A reduction of around 30,000 construction jobs in these states is expected next year.

About Australian Construction Industry Forum (ACIF)

Australian Construction Industry Forum (ACIF) is the cohesive, trusted voice of the Australian Construction Industry. ACIF facilitates and supports an active dialogue between the key players in residential and non-residential building, and engineering construction, other industry groups, and government agencies. ACIF's focus is on innovation, collaboration, equity and sustainability for the industry.

ACIF Members are the most significant Associations in the industry, spanning the entire asset creation process from feasibility through design, cost planning, construction and building and management. ACIF harnesses the resources of its Members to research and develop initiatives that benefit businesses of all sizes, from the largest of construction companies to small consultancies. More information on ACIF is available from www.acif.com.au.

About ACIF Forecasts

ACIF Forecasts are rolling ten year forecasts of demand across residential, non-residential and engineering construction in Australia. The Forecasts are prepared by respected economic modellers, using high quality data sources, and are overseen by ACIF's Construction Forecasting Council, an industry panel of expert analysts and researchers.

ACIF Forecasts are used by thousands of professionals each year, from across the full range of stakeholders, from major organisations to small consultancies. ACIF Forecasts are released twice a year, and are available as Australian Construction Market Reports, and detailed numbers are available by subscribing to the Customised Forecasts Dashboard. More information about ACIF is available from www.acif.com.au/forecasts.



EXCEPTIONAL PERFORMANCE WITH A GREAT LOOK

Architects: T&Z Architects | Builder: FIRM Construction Pty Limited

Wirtgen's state-of-the-art facility in WA called for exceptional design, function and aesthetics. The building had to demonstrate high levels of thermal and fire performance, as well as durability. It needed to be efficient to construct and commission, and allow maximum design flexibility. Kingspan Insulated Panels provided a single source, high performing building envelope where the insulated roof and wall panels and unique insulated gutters are all integrated to offer a holistic building solution that not only looks good, but also performs exceptionally well.



Insulated Roof & Wall Panels

Kingspan Insulated Panels

38-52 Dunheved Circuit, St Marys, NSW 2760 Australia

t: 1300 KINGSPAN (1300 546 477)

email: info@kingspanpanels.com.au www.kingspanpanels.com.au

DISRUPTION CLAIMS: IS IT ALL TOO HARD?

Mark J Griffith, Principal, Hinds Blunden, Email: mgriffith@hindsblunden.com.au

Abstract: Disruption is a fact of life on construction projects and arguably because of the greater integration of work activities in fast tracked projects, we have seen an increase in the incidence of disruption.

Compensation for disruption caused by the combination of multiple events is invariably sought by way of a global total cost claim. Despite the increased susceptibility of projects to disruption, in Australia the Courts have taken a hard line on the requirements for a successful global claim, to the extent of commenting that global claims should be approached with caution or distrust and rejecting apportionment, a characteristic of UK law, meaning that the claimant must eliminate from its claim all matters not the responsibility of the respondent.

This paper will look at how the courts view disruption claims in Australia compared with the UK and in particular the rejection of apportionment and consider whether global claims can succeed in Australia and if so how they should be formulated.

In circumstances where the claimant has established that it has suffered loss for causes for which the respondent is responsible, is it reasonable that the claim fails because the claimant cannot eliminate all loss not due to the principal, when often it is the very principal caused events giving rise to the claim which prevent the claimant from particularising loss due to individual events? This paper will address why we need an effective cause of action for disruption while also recognising that the way disruption claims are assessed requires a balance between providing an available remedy for an aggrieved party while not providing an avenue for opportunistic claims.

Finally given the stance taken by the Australian Courts, is it possible to mount a successful total cost claim for disruption in Australia and if so, how such a claim should be approached.

Stream: Overcoming obstacles

Keywords: global claims, total cost claims, disruption claims, apportionment, modified global claims.

Introduction

Disruption is a fact of life on construction projects and arguably because of the greater integration of work activities in fast tracked projects and chronic skill shortage during the resources boom, we have seen an increase in the incidence of disrupted projects.

Compensation for disruption caused by the combination of multiple events is commonly sought by way of a global total cost claim. Despite the increased susceptibility of projects to disruption, in Australia the Courts have taken a hard line on the requirements for a successful global claim, to the extent of commenting that global claims should be

approached with caution or distrust and rejecting the principle of apportionment, a characteristic of United Kingdom law.

This paper will look at the following:

- How the courts view global claims in Australia in comparison with the UK.
- The impact of the rejection of apportionment in Australia.
- Can global claims succeed in Australia and if so how should they be formulated.

Global claims

Global claims are available where it is impractical to disentangle the composite loss attributable to each head of claim in circumstances where that situation had not been brought about by the conduct of the claimant.

The most common type of global claim is the total cost claim where the loss is quantified as the actual cost less the expected cost of the affected work. Though global claims are not limited to disruption, this paper will focus on global disruption claims made via a total cost claim.

There are a number of ways to assess loss due to disruption other than by a total cost claim. The most commonly accepted methods are.

- Measured Mile
- Earned Value Analysis
- Work Sampling Method
- Industry Productivity Norms

The above methods all calculate disruptive impact with reference to some form of productivity baseline, be that specific to the project or general industry standards. All of these can be applied on a global basis to calculate loss resulting from a combination of causes.

Though different in application these methods are all forms of global claim and to be successful subject to the same legal requirements as a total cost claim. These methods, and in particular the measured mile approach, are generally preferred to the total cost claim, however the circumstances necessary for their application are rarely found.

Total Cost Claims

The requirements for a global total cost claim were set out in *John Holland Pty Ltd v Kvaerner R J Brown Pty Ltd* (1996) 8 VR 681 (John Holland) at [15].

Further, this global claim is in fact a total cost claim. In its simplest manifestation a contractor, as the maker of such claim, alleges against a proprietor a number of breaches of contract and

quantifies its global loss as the actual cost of the work less the expected cost. The logic of such a claim is this:

(a) the contractor might reasonably have expected to perform the work for a particular sum, usually the contract price;

(b) the proprietor committed breaches of contract;

(c) the actual reasonable cost of the work was a sum greater than the expected cost

The logical consequence implicit in this is that the proprietor's breaches caused that extra cost or cost overrun. This implication is valid only so long as, and to the extent that, the three propositions are proved and a further unstated one is accepted; the proprietor's breaches represent the only causally significant factor responsible for the difference between the expected cost and the actual cost. (emphasis added)

The reasoning applied in *John Holland* for demonstration of the responsibility for the extra cost had been discussed by Byrne J in a prior extrajudicial paper "Total Costs and Global Claims" (1995) 11 BCL 397 at 410-411, where Byrne J wrote.

If evidence shows that the contractor is responsible for some of the overrun then the claim fails as a total cost/time claim unless there is some rational method for separating this part of overrun from the total overrun and of quantifying it.

John Holland has been followed more recently in *Mainteck Services Pty Ltd v Stein Heurtey SA* [2014] NSWCA 184 (Mainteck) where the Court of Appeal Court stated at [11].

No special principles of fact or law apply to contractual claims relating to building and construction. Where there is a significant cause of loss not attributable to the defendant a global claim will fail. Any apportionment of damages must have an evidentiary basis [182]-[206].

Mainteck doesn't express a concluded view on whether the principle of apportionment is law in Australia, the appeal failing on other grounds. However notwithstanding the above reference to the need for an evidentiary basis for apportionment, the discussion suggests that it is inconsistent with Australian law and unlikely to be supported.

The Australian position can be contrasted with that taken by the United Kingdom courts discussed below.

In *John Doyle Construction Ltd v Laing Management (Scotland) LTD* [2004] ScotCS 141 (Doyle), consistent with *Kvaerner*, for a loss and expense (total cost) claim to succeed the three requirements for a global claim must be proven.

The Court stated at [10].

For a loss and expense claim under a construction contract to succeed, the contractor must aver and prove three matters: first, the existence of one or more events for which the employer is responsible; secondly, the existence of loss and

expense suffered by the contractor; and, thirdly, a causal link between the event or events and the loss and expense.

However at [16]-[17], the Court has taken a more pragmatic approach to apportionment than that in Australia.

In the third place, even if it cannot be said that events for which the employer is responsible are the dominant cause of the loss, it may be possible to apportion the loss between the causes for which the employer is responsible and other causes. In such a case it is obviously necessary that the event or events for which the employer is responsible should be a material cause of the loss. Provided that condition is met, however, we are of opinion that apportionment of loss between the different causes is possible in an appropriate case. Such a procedure may be appropriate in a case where the causes of the loss are truly concurrent, in the sense that both operate together at the same time to produce a single consequence...

Apportionment in this way, on a time basis, is relatively straightforward in cases that involve only delay. Where disruption to the contractor's work is involved, matters become more complex. Nevertheless, we are of opinion that apportionment will frequently be possible in such cases, according to the relative importance of the various causative events in producing the loss...

The reason for apportioning a claim where the contractor and principal or neutral events cause delay or disruption is further discussed at [17].

... Moreover, the alternative to such an approach is the strict view that, if a contractor sustains a loss caused partly by events for which the employer is responsible and partly by other events, he cannot recover anything because he cannot demonstrate that the whole of the loss is the responsibility of the employer. That would deny him a remedy even if the conduct of the employer or the architect is plainly culpable, as where an architect fails to produce instructions despite repeated requests and indications that work is being delayed. It seems to us that in such cases the contractor should be able to recover for part of his loss and expense, and we are not persuaded that the practical difficulties of carrying out the exercise should prevent him from doing so.

Further explanation of apportionment is provided at

[486(e)] The fact that one or a series of events or factors (unpleaded or which are the risk or fault of the claimant contractor) caused or contributed (or cannot be proved not to have caused or contributed) to the total or global loss does not necessarily mean that the claimant contractor can recover nothing. It depends on what the impact of those events or factors is. An example would be where, say, a contractor's global loss is £1 million and it can prove that but for one overlooked and unpriced £50,000 item in its accepted tender it would probably have made a net return; the global loss claim does not fail simply because the tender was underpriced by £50,000; the consequence would simply be that

the global loss is reduced by £50,000 because the claimant contractor has not been able to prove that £50,000 of the global loss would not have been incurred in any event. Similarly, taking the same example but there being events during the course of the contract which are the fault or risk of the claimant contractor which caused or cannot be demonstrated not to cause some loss, the overall claim will not be rejected save to the extent that those events caused some loss.

In my experience, it is rare that all causes of disruption and cost overrun on a project can be clearly attributed to one party. Consequently the absence of apportionment in Australia presents a significant hurdle to mounting a successful global claim in Australia. The reasoning in John Holland and Mainteck suggests that even where an evidentiary basis for apportionment of a claimant's loss exists, the claim will still fail if not all of the loss can be attributed to compensable causes.

In circumstances where the claimant has established that it has suffered loss for causes for which the respondent is responsible, in my opinion it is unreasonable that a global claim fails for the sole reason that not all of the claimant's loss can be attributed to compensable causes, when a rational evidentiary basis exists for apportioning these losses. This is particularly so given that often it is the principal caused events giving rise to the claim which prevent the claimant from particularising loss due to individual events.

Making Global Claims

Due to the acknowledged difficulty in proving global claims, if the impact of an individual cause can be isolated, then a party would be remiss not to claim it as such. This includes any disruption which can be identified as flowing from the particular issues.

However where there are multiple overlapping causes of disruption the total disruption is often greater than the sum of the parts. That is the total disruption is greater than that which would be assessed if the disruption due to each individual cause was assessed in isolation. It is this amplification effect which often makes it impractical, if not impossible to attribute the combined impact to each particular cause and leads to a global claim.

Similarly it is the very nature of disruption due to multiple causes which renders the separation of disruption due to compensable and non-compensable causes by apportionment such a beneficial principle in establishing a successful claim and recovering legitimate principle caused loss.

Because disruption is a fact of life on construction projects, it is necessary from time to time for contractors to recover loss via a global claim, it is apparent that we need an effective cause of action for global claims in Australia, while also recognising that a balance is required between providing a remedy for an aggrieved party while not providing an avenue for opportunistic or Ambit claims. Given the many evidentiary difficulties in prosecuting a successful global claim, it appears unlikely that the adoption of the principle of apportionment would open the flood gates for opportunistic contractors.

Given the stance taken by the Australian Courts on

apportionment, the question remains as to whether it is possible to mount a successful disruption case in Australia and if so, how should non compensable events be dealt with.

Due to the identified hurdles to making a successful global claim, before considering a global claim any individual issues where the relationship between cause and effect can be identified and the cost calculated should be claimed. This includes identifying any disruption which can be contributed to individual events.

In my experience when pursuing a global claim many claimants are reluctant to claim disruption outside the global claim, where the nexus between cause and effect can be identified for individual heads of claim. This may well be because of a perception that to do so conflicts with the requirement that it be impractical to disentangle the composite loss attributable to each heads of claim.

However doing so is not to say that the event(s) may not also contribute to disruption costs incurred due to the combination of a number of causes. It is the direct effect of the compensable event taken in isolation including disruption that should be claimed separately to the global claim where such costs can be identified.

Doing so not only reduces the risk of complete loss should a global claim fail, but the analysis of the impact of individual causes generally leads to a more robust global claim.

In *DM Civil v Karara Mining* [2014] WASC 170 (DM Civil) the claims were described as modified total cost claims. Though what was meant by this description was not discussed in that case, the term modified total cost claim generally related to a total cost claim where the expected cost has been adjusted to account for some cost or costs which had not been allowed for in the expected cost. These costs can include items not allowed for in the tender or budget cost or other non-expected costs during the project due to non-compensable causes.

It would appear untested in Australia whether accounting for the cost of identified non-compensable causes in the expected cost is acceptable or will be treated the same as apportionment.

While it will depend on the circumstances of each matter whether a logical basis for the separation of such costs exists doing so may be problematic while maintaining a global claim. While rectification of a simple tender price error which affects the expected price, but does not contribute to global disruption, is unlikely to be an issue in this regard, separation of the costs of a non-compensable cause of disruption raises the question of whether the claim satisfies the criteria that it be impractical to attribute cost to individual causative events.

Narrowing the focus of a global claim to the extent of making multiple claims which focus only on a specific section of work where principal caused events are likely to have caused disruption narrows the claim and likely make it easier to prove that no part of the claim is due to non-compensable events.

Although the three requirements for a global total cost claim discussed earlier still apply, global claim(s)

restricted to specific portions of the work provide the best approach to establishing an evidentiary basis for establishing that the costs claimed are all incurred due to compensable events.

Such a global claim may focus on.

- a) A particular time.
- b) A location.
- c) A part of work of a project.

By doing so a claimant would minimise the requirement to prove that there was no loss caused by non-compensable events included in the claim where these events are likely to have effected only other sections of the project.

Given the Courts stance on apportionment, it is vital that any events that are not compensable are identified (such as an overlooked item in the tender, or an event the responsibility of the contractor that occurred during the course of the project) and any global claim amount reduced by the cost caused by the omissions or events.

While errors or omissions in the tender can readily be identified and accounted for, the most difficult area to address is reduced productivity on site due to factors not the responsibility of the principal. Because these factors combine with the compensable events in reducing the overall productivity, it is no easy matter to determine their individual contribution to the overall impact.

Conclusions

Because it is rare that all causes of disruption and cost overrun on a project can be clearly attributed to one party the absence of apportionment in Australia presents a significant hurdle to mounting a successful global claim. The reasoning in John Holland and Mainteck suggests that even where an evidentiary basis for apportionment of a claimants loss exists, the claim will still fail if not all of the loss can be attributed to compensable causes.

The Australian position can be contrasted with that taken by the United Kingdom courts that where there are events either during the course of the contract or in forming the budget price which are the fault or risk of the claimant which caused or cannot be demonstrated not to cause some loss, the overall claim will not be rejected. In such cases the United Kingdom's courts position is that the claimant should be able to recover part of his loss and expense, and the practical difficulties of carrying out the exercise should not prevent him from doing so.

In circumstances where the claimant has established that it has suffered loss for causes for which the respondent is responsible, in my opinion it is unreasonable that a global claim fails for the sole reason that not all of the claimant's loss can be attributed to compensable causes when a rational evidentiary basis exists for apportioning these losses. This is particularly so given that often it is the principal caused events giving rise to the claim which prevent the claimant from particularising loss due to individual events or even establishing fault.

WORLD'S BEST PRACTICE FOR ANCHORING INTO CONCRETE IS ADOPTED AUSTRALIAWIDE

HILTI ANCHORS ADHERE TO NEW STANDARD

A new standard for concrete anchoring has been developed by the construction industry in consultation with the Australian Engineered Fasteners and Anchors Council (AEFAC). The new standard, named 'SA TS 101:2015 Design of post-installed and cast-in fastenings for use in concrete', is due to be referenced within the next revision of the National Construction Code (NCC) due to be released in May.

Anchors are used to connect different structural materials including concrete to concrete; steel to concrete; timber to concrete as well as non-structural components. The design of such anchors is relatively complex and cannot be incorporated into one of the existing materials standards.

SA TS 101:2015 covers post installed chemical anchors, mechanical anchors and cast-in anchor channel used in concrete for all safety-critical applications. The standard is based upon European design guidelines (ETAG) and ETA product assessment as the method of compliance under the Deemed to Satisfy (DTS) provisions of the NCC. Designers will have a consistent design approach and comparable product assessments to facilitate efficient and effective designs.

Hilti, the construction fastening specialists, have long since advocated these design principles and product assessment methods. These principles and methods when used together ensure an appropriate anchoring solution and most importantly, a safe structure.

"The objective of having SA TS 101:2015 published has been to raise safety and quality standards in the Australian anchor industry and make the industry a safer one" says Zoran Skoric, head of Engineering – Hilti Australia. "The NCC will herald a new beginning for the Australian anchor industry, one where the design and evaluation of anchors used in safety-critical applications will be brought into line with other fastening systems already referenced in the NCC and adopted throughout the building and construction industry".

Designed with construction specialists in mind, Hilti anchors are already ETA assessed and the design software PROFIS Anchor and PROFIS Channel are compliant with SA TS 101:2015. Technical support staff, qualified engineers and online resources are also available to deal with all your design and construction queries.

For more information, please contact: Stephen Flynn | Niche Marketing Group | 02 8585 4320 | stephen@nichegroup.com.au

Professor Emad Gad, Chairman of the AEFAC Board, said: "AEFAC is very pleased that the new standard has just been published. This marks a significant development for the Australian construction industry as we implement international best practice. We now have consist and robust means of prequalification and design of anchors for safety critical applications. Furthermore, the standard has just been referenced in the 2016 National Construction Code (NCC), which gives designers the assurance of deemed to satisfy provisions. These major developments have become possible because of AEFAC's work and the support provided by the organisations represented on the SA TS101 development committee."

For further information about Hilti Australia please visit www.Hilti.com.au or call 131 292

For further information about AEFAC please visit www.aefac.com.au

LANDCORP A LEADER IN WORKPLACE HEALTH

State-wide workplace health program Healthier Workplace WA is calling on all workplaces to follow the lead of LandCorp and apply for recognition under their program Recognised Healthy Workplace.

Under the FREE web-based program, WA workplaces that have demonstrated commitment and leadership towards creating a healthy workplace can apply to become a gold, silver or bronze Recognised Healthy Workplace.

Recognised workplaces receive a certificate plus a digital icon to display in the workplace, on websites and to attract new staff. They are also promoted via the official website and provided support and advice to achieve the highest level of recognition possible.

Being recognised can also enhance business reputation, make businesses an employer of choice, assist to grow workplace culture and clearly demonstrate the business commitment to health and wellbeing.

LandCorp Chief Executive Mr Frank Marra said we are thrilled to receive Gold recognition and this acknowledgment has inspired us to continue our efforts to build a healthy workplace for our staff.

LandCorp received Gold recognition for having a comprehensive health and wellbeing program. Their achievements include:

- A detailed calendar of activities for implementation over the next 12 months
- Annual budget to implement their workplace health and wellbeing program
- Standing agenda item "Health and Wellness" at their Occupational Health and Safety Committee meetings
- End of journey facilities including bike racks, showers, change rooms and lockers.
- Fitness subsidy to all staff to encourage regular physical activity. (includes activities such as gym memberships, Pilates, yoga or fitness classes)
- Implementation of 15 sit-stand workstations to encourage workers to break up their sitting
- Free or subsidised initiatives for staff members to participate in, including health checks, education sessions, corporate sport, flu vaccinations
- Physical activity events like workplace walking challenges and healthy breakfast events for walkers, runners and cyclists
- Entry fee subsidy to participate in the HBF Run for a Reason and City to Surf.
- Establishing a cycling club which participates in a range of annual events

- Providing a weekly fruit box in every lunch room.
- Undertaking regular consultation with staff members and evaluating program strategies.

Healthier Workplace WA Manager Hayley O'Connell said there are significant benefits for both the employer and the employees from having a dedicated health program.

LandCorp Chief Executive Mr Frank Marra agrees and said there are many reasons we invest in programs to enhance our staff's health and wellbeing. For instance, we know there is a strong link between healthy workers and better business performance.

"These programs are central to our corporate goals of developing a high achieving, innovative workforce, and becoming an employer of choice", said Mr Marra.

Healthier Workplace WA Manager Hayley O'Connell said since the program launched, the level of interest in workplace health in WA has been growing steadily with more than 1600 businesses contacting us for support and 42 earning recognition.

"The support for workplace health in WA is terrific and many WA workplaces are implementing comprehensive workplace health and wellbeing plans which allow their staff to be physically active, quit smoking and improve their nutrition", said Ms O'Connell.

LandCorp OSH Manager Stewart McDonald said as well as improving staff health, our programs are designed to make staff feel valued and positively impact on workplace culture.

"At LandCorp we are particularly focused on the lasting benefits these programs have on our staff, their families and the wider community. We hope that staff armed with the knowledge they gain, go home and make informed choices, thereby improve the lives of their families as well", said Mr McDonald.

Healthier Workplace WA applauds LandCorp for showing leadership in this area.

Workplaces that have an existing workplace health and wellbeing program and would like to apply for recognition can visit www.healthierworkplacewa.com.au/get-recognised and submit an application online.

The program was developed in collaboration with Unions WA and the WA Chamber of Commerce and Industry.

Healthier Workplace WA is delivered by the Heart Foundation WA in conjunction with the Cancer Council WA.

To take advantage of this free workplace health

service and other resources, visit the website www.healthierworkplacewa.com.au

Information for editors:

Healthier Workplace WA recommends workplace health and wellbeing programs to focus on helping workers to:

- Achieve a healthy weight
- Eat more fruit and vegetables
- Participate in 30 minutes of physical activity on five or more days of the week
- Reduce sitting time
- Quit smoking
- Reduce level of harmful alcohol consumption

Checklist to apply for workplace health recognition:

1. Does your workplace have a plan outlining what you are going to implement as part of your workplace health and wellbeing program?
2. Have you involved staff in the development of your program?
3. Does your workplace have a committee that regularly meets to discuss employee health and wellbeing?
4. Does your workplace provide staff with healthy incentives?
5. Do you measure the success of your program?
6. Does your workplace have policies or procedures that support the health and wellbeing of staff?
7. Does your workplace provide facilities that support healthy behaviours?
8. Does your workplace have guidelines for responsible service of alcohol at work events and functions?
9. Do you provide any education or activities to improve the health and wellbeing of your workers?

Contact:

Jenny Coyle | Account Director (Devahasdin)

Tel: (08) 9226 2222 E: jenny@devahasdinpr.com.au

Natalie Quinn | Media and Communications Manager (WA Heart Foundation)

Tel: (08) 9382 5945 Fax: (03) 9388 3383 m 0401 172 316

NEW AUSTRALIAN CODE OF PRACTICE AND ACCREDITATION SCHEME FOR UPVC WINDOW PROFILES PUBLISHED



An Australian Industry Code of Practice (ICP) and accreditation scheme for uPVC (vinyl) profiles to be used in windows and doors has been released.

Image: courtesy Plustec Pty Ltd

uPVC (unplasticised PVC) windows are known around the world for being durable, low maintenance, thermally efficient products. However, one of the most common queries from specifiers, builders and consumers about uPVC windows in Australia is whether the profiles will discolour because of high UV conditions here in Australia.

Launched by the uPVC Window Alliance - an initiative of the Vinyl Council - the purpose of the ICP is to provide greater confidence in the durability of uPVC profiles under Australian climatic conditions and to reduce the concern that uPVC profiles will discolour.

The ICP sets specific composition, weathering resistance, colour and strength requirements for extruded uPVC profiles for use in windows and doors in Australian buildings.

Australia has the highest solar radiation per square metre of land of any continent. It is therefore important that products used in Australian buildings are formulated and designed for this country's climate.

Accreditation under the new ICP indicates that profiles have been independently tested to withstand Australia's higher UV conditions. The new Australian ICP requires testing to a minimum radiation exposure of 15,000 MJ/m². It goes beyond the weathering standards

typically applied to profiles for other regions such as northern or southern Europe, the US or China.

To achieve accreditation under the ICP, suppliers must have their profiles independently tested at Australia's only natural outdoor weather resistance testing laboratory at a high irradiation site near Townsville, Queensland. Stringent maximum colour change parameters must be met by exposed profiles as well as impact strength tests.

The ICP also includes provisions related to the polymer quality and restrictions on the use of legacy additive compounds containing lead or cadmium. The use of recycled PVC in profiles is permitted providing the ICP requirements are still met.

Manufacturers of profiles that have been independently verified as meeting the ICP performance requirements may apply for licensed use of the ICP accreditation mark in relation to the compliant profiles. This mark provides a simple way for specifiers, builders and customers to identify accredited uPVC profiles, tested for Australia's extreme climate.

The release of this ICP follows over two years of consultation and development with stakeholders in the sector in Australia and overseas, overseen by the ICP Working Group comprising representatives of suppliers of uPVC profile extrusions used for windows and doors in Australian buildings, window fabricators as well as representatives of the Australian Windows Association and the Vinyl Council of Australia.

The intention is for the ICP to be implemented in addition to window manufacturers meeting the requirements of the Australian Window Standard AS2047 for the whole window unit.

Contact: Vinyl Council of Australia +61 3 9368 6171 E:info@vinyl.org.au

www.upvcwindows.org.au

SPATE OF FALLS INCIDENTS PROMPTS SAFEWORK WARNING

SafeWork NSW is urging businesses and workers across the State to take extreme care after two workers were killed and eight others seriously injured in falls from heights since the beginning of the year.

On 31 January, a 62 year old asbestos removalist died when he fell approximately eight metres while removing sheets from a factory roof at Greenacre and on 7 January, a 73 year old Newcastle builder died when he fell approximately 1.3 metres from a mobile scaffold while repairing a property at Hamilton East near Newcastle. Other incidents included a 62 year old barman at a Manly golf club suffering a fractured skull after falling from a ladder while attempting to clean gutters and a 33 year old labourer at Orange breaking his leg after falling approximately three metres while removing sheeting from a roof.

Executive Director of SafeWork NSW, Peter Dunphy said working from heights was hazardous and businesses needed to have safety systems in place.

"These incidents highlight that a fall, even from a relatively low height, can result in serious injury or death," Mr Dunphy said.

"Tragically, most of these incidents could have been prevented had safe work systems such as safety harnesses or work platforms been used.

"During 2013/14 there were 4,170 workers compensation claims for falls from heights at a cost of more than \$49 million.

"We're urging NSW businesses to review their safety systems so that no more workers are injured."

Under NSW work health and safety laws, workplaces must have safety systems in place to prevent workers falling from heights. Businesses must provide workers with information, instruction, training and supervision in risk control procedures and workers are required to follow those procedures.

Businesses can prevent falls from heights by:

- Carrying out work on the ground or on a solid construction;
- Providing a fall prevention device such as a secure fence, edge protection, working platforms or covers;
- Providing a work positioning system which includes any plant or structure, other than a temporary work platform, that safely holds a worker in a work position; and
- Providing a fall arrest system such as an industrial safety net, catch platform or safety harness system.

"Whether it's making sure a step ladder is positioned properly or that a new worker is inducted and aware of the risks, everyone in needs to work together to prevent falls from heights." Mr Dunphy said.

For more information on safely working with heights, including the free publications

Safe working at heights, and the Code of Practice: Safe Work on Roofs Parts 1 and 2, visit www.safework.nsw.gov.au or call 13 10 50.

A tailored approach: CIT working with industry for a targeted management qualification

Canberra Institute of Technology (CIT) is providing a customised solution for construction workers to improve their skills and expertise in response to the training needs of the Australian Capital Territory and wider regional New South Wales building and construction industry.

Construction is a major driver of economic activity in the ACT, with 400 major projects to the value of \$1 million or more in the Canberra region currently listed in the *ACT Government Works in Progress* report released in December 2015. Construction accounts for an 11.3% share of the ACT economy, positioning the industry as the second largest next to public administration (Australian and local government sectors).

With the region's local economy so reliant on a strong construction industry, it's more crucial now than ever to ensure training pathways for construction workers are relevant, targeted and offer quality outcomes for both students and their employers or businesses.

Highly skilled building and construction site supervisors, managers and estimators with nationally recognised qualifications are increasingly sought out to drive business growth and deliver on client expectations.

The Diploma of Building and Construction (Management) (CPC50308) is nationally recognised training that has been contextualised with the needs and complexities of the local and national construction industries in mind. Developed in consultation with industry companies such as Hindmarsh, the course offers a unique and highly relevant approach to management for building and construction projects.

Students learn about selecting contractors, overseeing construction work, liaising with clients, managing budgets and financial planning and problem solving as well as selecting and managing construction industry staff for their teams.

This CIT course seeks to expose students to a wide range of building sites and structures currently under construction in the ACT. Students engage with key industry employers, visit building sites and liaise with a range of project managers and stakeholders across a broad range of projects. CIT strives to offer a practical study experience, not just theory, resulting in graduates who have real industry skills and connections.

The course is 12 months part-time offered with site-based activities, plus online and face-to-face delivery. CIT understands the importance of recognising the existing skills of our students, and in many instances students are able to fast-track their way through a qualification with Skills Recognition. Undertaking our Skills Recognition process, students can have their workplace experience and knowledge formally recognised, preventing unnecessary face-to-face contact.

CIT equips graduates with effective and relevant skills essential to successfully managing building projects. Equipped with the knowledge and tools needed to navigate through the complexities of the modern building industry environment, our graduates are well-positioned to ensure the future needs of construction industry needs are met.

For more information or to apply, visit cit.edu.au/building, contact CIT Student Services on (02) 6207 3188 or email infoline@cit.edu.au. RTO 0101.

¹Canberra Construction Snapshot - Economic Development. (2016). *Economicdevelopment.act.gov.au*. Retrieved 2 May 2016, from http://www.economicdevelopment.act.gov.au/buy-land-and-build/construction_snapshot

²St. George, (2015). *ACT Economic Outlook*. St. George. Retrieved from <https://www.stgeorge.com.au/content/dam/stg/downloads/report-centre/eco-reports/ACT%20Economic%20Outlook%20-%20May%202015.pdf>

Industry partnership profile – Jonathan de Puit for Hindmarsh

Founded over 36 years ago, Hindmarsh is one of Australia's leading, privately owned, integrated construction, development and retirement companies. Hindmarsh has delivered over 230 successful projects to a value of \$3.5B including 4,000 residential apartments. Operating in ACT, NSW, QLD and SA, Hindmarsh's service offering spans multiple disciplines and sectors.

Hindmarsh is committed to outstanding performance, quality outcomes and a collaborative approach to all projects. Hindmarsh adheres to a set of five core values; Integrity, Safety, Quality, Innovation and Teamwork. These core values underpin the way in which Hindmarsh conducts business, interacts with stakeholders and operates as individuals or teams.

Hindmarsh employs staff from a number of tertiary level construction, design and engineering disciplines through cadetships and direct employment. Hindmarsh employees who have developed from strong education foundations along with on-the-job experience often prove to be most valuable.

Hindmarsh has been an industry representative on the CIT Industry Reference Group for a number of years, helping to ensure CIT's programs remain relevant to our industry. This involvement includes attendance at regular meetings where the content of CIT's building and construction courses are critically reviewed and discussed between CIT leadership, staff and peers, government representatives and construction industry representatives. The discussions consider the content, coverage of courses and the depth of content, along with industry and legislative relevance.

Through the reference group and other feedback channels, the CIT Diploma of Building and Construction (Management) (CPC50308) course succeeds in remaining engaged with industry and government as well as adapting to a changing industry landscape.

Hindmarsh is delighted to have a number of junior cadets and senior staff who benefit from upskilling opportunities through CIT training. These include both men and women who have gone on to deliver award winning buildings and receive personal industry recognition awards.



www.hindmarsh.com.au

MELBOURNE OUR FASTEST GROWING CAPITAL

Melbourne is officially Australia's fastest growing capital city, according to data released by the Australian Bureau of Statistics (ABS).

Melbourne's population grew by 2.1 per cent in 2014-15, down slightly from 2.2 per cent last year, but still higher than the next fastest growing capital, Darwin (1.9 per cent).

Perth, which has been one of the fastest growing capital cities since the mid-2000s,

Grew by 1.6 per cent in 2014-15 (down from 1.9 per cent last year) and now sits equal fourth with Brisbane, behind Sydney (1.7 per cent).

"Although Perth's growth slowed to its lowest rate since 2004-05, it was not the only city to experience weaker growth," said ABS Director of Demography Beidar Cho.

"Of all the capitals, only Hobart (0.8 per cent), Canberra (1.4 per cent) and Darwin (1.9 per cent) grew faster in 2014-15 than in the previous year".

Australia's capital cities accounted for the vast majority (83 per cent) of the nation's total

population growth in 2014-15, with most growth occurring in outer suburban and inner city areas.

The fastest growing areas in each state and territory were Cobbley Leppington

(New South Wales), Cranbourne East (Victoria), Pimpama (Queensland), Munno Para West Angle Vale (South Australia), North Coogee (Western Australia), Rokeby (Tasmania), Palmerston South (Northern Territory), and ACT South West (Australian Capital Territory).

For more highlights in each state and territory, read on:

New South Wales - Sydney is well on target to becoming the first Australian capital city to reach 5 million people, growing by 83,300 in 2014-15 to hit 4.92 million.

Victoria - Melbourne had both the largest (91,600) and fastest (2.1 per cent) population increase of all Australian capital cities in 2014-15.

Queensland - Brisbane's population may be increasing at its slowest rate for over a

decade, but Queensland has some of the largest growing regional areas in the nation.

South Australia - Adelaide's outer suburbs may be experiencing the largest population increases, but some of the city's fastest growth is occurring in its inner areas.

Western Australia - Perth's growth has slowed to its lowest rate for a decade, increasing

by 1.6 per cent in 2014-15 compared with 1.9 per cent in 2013-14.

Tasmania - Although growing at the slowest rate of all capital cities (0.8 per cent in 2014-15), Hobart is the only Australian capital to record an increasing rate of population growth in each of the last three years.

Northern Territory - Darwin remains one of the fastest growing capital cities in Australia, increasing by 1.9 per cent in 2014-15, second only to Melbourne (2.1 per cent).

Australian Capital Territory The newly developed suburbs of Canberra's Molonglo Valley are the fastest growing areas in Australia. The population of ACT South West, which includes the new suburbs of Wright and Coombs, grew by 127% in 2014-15.

Further details can be found in Regional Population Growth, Australia, 2014-15 (cat. no. 3218.0) available for download from the ABS website www.abs.gov.au.

'CONSTRUCTION KING' SYDNEY DOMINATES CRANE INDEX (NSW)

Almost half of Australia's cranes are on Sydney's skyline making it the nation's "construction king", the latest RLB Crane Index shows.

RLB said there are now 288 cranes on Sydney's skyline - the greatest level of activity Sydney has experienced since the Index's launch in 2013. Crane activity has more than tripled in Sydney over the last three years.

Treasurer Gladys Berejiklian said the NSW Government's record infrastructure spend over the last five years has increased construction activity across the State.

"Our focus on delivering new roads, rail,

hospitals and schools has boosted our construction sector and is underpinning much of the growth in our economy," Ms Berejiklian said.

"We are spending a record \$68.6 billion on infrastructure over the next four years in addition to our \$20 billion Rebuilding NSW plan to transform the State."

Ms Berejiklian said it was pleasing that much of the crane activity was for residential construction, with 83 per cent of Sydney's 288 cranes involved in building new homes.

"Sydney's cranes are building the housing that

Sydney needs," the Treasurer said.

"Sydney is a hive of construction activity. Everywhere you look across our skyline you see cranes - a reminder that business and consumer confidence continues to be strong."

The report identified Darling Harbour as a crane hotspot with about a dozen cranes working on the new International Conference Centre while Barangaroo boasted a further five cranes.

It also found that crane activity was widely distributed across Sydney due to strong residential dwelling construction activity.

MEDIA: Ehssan Veiszadeh | 0418 986 206

Current lending practices can punish small business

Self-employed, small business should look beyond the big four for finance



Small business accounts for 97% of all businesses in Australia, employs 70% of the workforce and contributes more than half a trillion dollars to the economy, yet remains the poor cousin when it comes to securing finance.

It's a problem that needs fixing, according to Campbell Smyth, CEO Asia Pacific for specialist lender Bluestone Mortgages.

"Statistics like these demonstrate that small business and self-employed people should be the most powerful economic voice in Australia because they truly are the engine room of our economy.

"Over 2.4 million Australians are self-employed, 1.4 million of these are sole traders and the remaining 1 million employ 6 million people. According to a report by the World Bank and International Finance Corporation, Australia is ranked as the second easiest country to start a business, after New Zealand, and yet more than 60% of small businesses fail within the first three years of operation," Mr Smyth explained.

"Starting a new business is fraught with risks of all types, but there's no question that it is next to impossible to succeed without access to affordable capital. And most small and medium sized enterprises say that availability and conditions of credit are key barriers to their business growth. When you add to that a previous business or credit failure – which is not uncommon for business entrepreneurs, then they are facing a massive hurdle."

According to figures released by APRA, the big four banks are continuing to tighten their mortgage underwriting standards across the board. But even more telling for small business is the

fact that so-called 'low doc' loans have declined from 6.4% of new residential loans in 2010 to just over 0.7%, following the introduction of the National Consumer Credit Protection Act in 2009.

"We would be the first to agree that in some cases, and for some lenders, 'low doc' loans were based on poor lending practices and the fact that these have been stamped out is a very good thing," said Mr Smyth.

"But it may be that the pendulum has swung back too far. For many small businesses and sole traders, the requirements imposed by mainstream lenders for 'traditional' loans are impossible for self-employed or small business owners to meet."

Mr Smyth went on to say that two thirds (65%) of small business owners put themselves in a potentially precarious position by using their personal finance facilities to fund their growth, including credit cards, where interest rates can be over 20%.

"And another common approach, using home equity to support a small business, is completely cut off when business operators can't access a mortgage in the first instance," Mr Smyth explained.

The many business owners who may have had some type of financial problem in the past find themselves in a very difficult situation when it comes to securing finance. A previously failed business or a bad credit rating will, in most cases, result in an automatic rejection from a mainstream lender. This can be the kiss of death for many Australians trying to make a go of it as a sole trader or start a small business.

Mr Smyth said he wanted to highlight that there are options outside of the mainstream banks. In fact, non-banks make up a growing segment of the loan market. He said that small business owners should not hesitate to seek help from a specialist lender and/or broker with experience in this area.

"Ask your broker whether they work regularly with specialist lenders, and make sure you choose a specialist lender with experience. Ask what proportion of self-employed people they lend to, for example," he said.

"Make sure you question how a loan will be structured, as well as the premium you will be paying above standard interest rates if you have specific circumstances. What it all comes down to is that there are opportunities for the right borrowers even if they don't meet "ideal" lending criteria. Being declined by a bank is no reason to give up."

To arrange an interview with Campbell Smyth, or for more information, please contact:

Emalie McPherson,

BlueChip Communication

E: emalie@bluechipcommunication.com.au

P: (02) 9018 8609 | M: 0409 454 858

STATEMENT ON THE RELEASE OF INFRASTRUCTURE AUSTRALIA PLAN

“The release of Infrastructure Australia’s (IA) first 15-year plan provides a clear direction for improving infrastructure provision in our growing cities and regions,” Business Council of Australia Chief Executive Jennifer Westacott said.

“Australia’s infrastructure challenges are well known to all - rising congestion, high infrastructure costs and poor quality infrastructure services. IA’s plan to meet these challenges is a blueprint that all governments, working together, can support and implement,” Ms Westacott said.

“The plan shows the value of Infrastructure Australia as an independent adviser and the important contribution it makes to the national infrastructure debate. IA estimates that implementing its plan would make the average household \$3000 better off by 2040.

“The Business Council strongly endorses IA’s advice to put greater effort and resources into improving infrastructure planning and business

case development, as well as the advice to reserve corridors for future infrastructure projects. This needs to happen in consultation with the community.

“IA has proposed a number of important infrastructure regulation, planning and funding reforms that need to be prioritised, no matter how challenging.

“The Business Council would add two more important reform initiatives to reduce the costs of delivering major infrastructure projects – streamlining major project planning approvals and reinstating the Australian Building and Construction Commission to preserve industrial harmony.

“IA’s proposals to develop a set of national governance principles, impose project-specific conditions and offer infrastructure reform payments will create a solid basis for negotiations with the states and territories. The reform payments proposal should be progressed quickly by COAG.

“In totality these reforms can transform the infrastructure system towards a more efficient, market based structure, with significant benefits for users and lifting productivity.

“There should continue to be an expectation that states and territories will make every effort to source funding from user charges, value capture and capital tied up in existing infrastructure before seeking federal taxpayer funds.

“Privatisation of existing infrastructure assets and recycling of capital not only reduces the pressure on budgets, it leads to more efficient management of assets and puts downward pressure on prices for users.

“At a time when Australia needs faster growth to repair government budgets, remain competitive in a changing world and to maintain living standards, planned delivery of productivity-enhancing infrastructure must remain an absolute priority,” she said.

For further information contact:

Scott Thompson,
Director, Media and Public Affairs
Business Council of Australia
Telephone (03) 8664 2664
Mobile 0403 241 128

STRAMIT CORRUGATED ROOF AND WALL PLANNING AT THE CORE OF THE DESIGN

The Whiddon Group Kelso Aged Care Home is a state-of-the-art facility designed by architect’s Jackson Teece and constructed by Keystone Projects and Grindley Constructions. Formerly known as Illumba Gardens, the facility is located just 5 minutes from Bathurst city centre. Construction began in 2014 and finished in November 2015, with the original nursing home upgraded from a 3330 m2 facility to a 7,500 m2 contemporary aged care facility. Designed as a stunning architecturally designed care home, the new section of the building has been completed with Stramit Corrugated and Speed Deck Ultra ® at the core of its design.

Jackson Teece was tasked with designing a modern building that seamlessly complemented the original structure.

Integrating Stramit ® steel products into the design allowed the architect to address another brief: to create a welcoming facility that puts residents and visitors at ease whilst accentuating the overall vibrancy and atmosphere of the care home at large.

The striking 111-bed place aged facility (of which 60 are new beds) has undoubtedly fulfilled the project’s requirements. A long-time advocate of Stramit ® across a range of varying projects, Jackson Teece was assured that the specified Stramit ® building products would emphatically fit the brief.

From an aesthetic perspective, the architect was equally impressed by Stramit’s ® smooth look. Jackson Teece’s lead architect for the project, Peter Donn, commented that “Stramit ®

products helped emit a classic Australian appearance which was highly suitable to the builder’s locality. We are particularly pleased with the appearance and longevity offered by Stramit Corrugated ® which has been installed as a wrap-around building envelope on the new entry building component. Here, the Colorbond Monument ® coloured walls emit a striking modern feel appropriate to the renovated complex - thereby breathing a new sense of vibrancy into the facility that can be experienced on arrival”. The new entry building component forms the equidistant link between the old part of the care home and its new addition. Whilst the new addition adopts a modern, more spacious design, the older component was not forgotten, with focussed areas renovated in detail to ensure compliance with the most

up-to-date standards.

The old building is capped with existing terracotta roof tiles and the architect elected to supplement these roof areas with colour compatible Stramit ® roof sheeting products where new building areas needed to be implemented as seamlessly as possible. Overall, the completed building composition is a mixture of pitched roof forms intersecting with one another to form a cohesive weatherproof solution – one which can be easily maintained without specialised equipment.

The benefits of using Stramit ® products on such projects are numerous. “I wanted to use a product that’s not only known for its longevity - but also one that boasts maintenance free cladding,” added Mr Donn. Aside from the latter benefits, Stramit’s ®Corrugated Roof and Wall Cladding solutions also lend it a versatility for architectural applications. Stramit®

products also feature easy-fixing methods, while their hi-tensile steel is lightweight but also high in strength properties. As an added bonus, Stramit’s ®Corrugated Roof and Wall Cladding solutions are also fully tested, with a full range of load performance tables to suit most applications.

Among the features in the new building addition at Kelso are a modern entry foyer and reception area, an on-site cafe, new service areas for the kitchen and laundry staff, new outdoor areas and secure internal courtyards with all the comforts of home. The 60 new aged care beds all consist of private, single bedrooms with en-suite bathrooms. The care home also offers a common lounge and dining areas for residents and families to enjoy together, as well as a salon and allied health suits for visiting GPs.

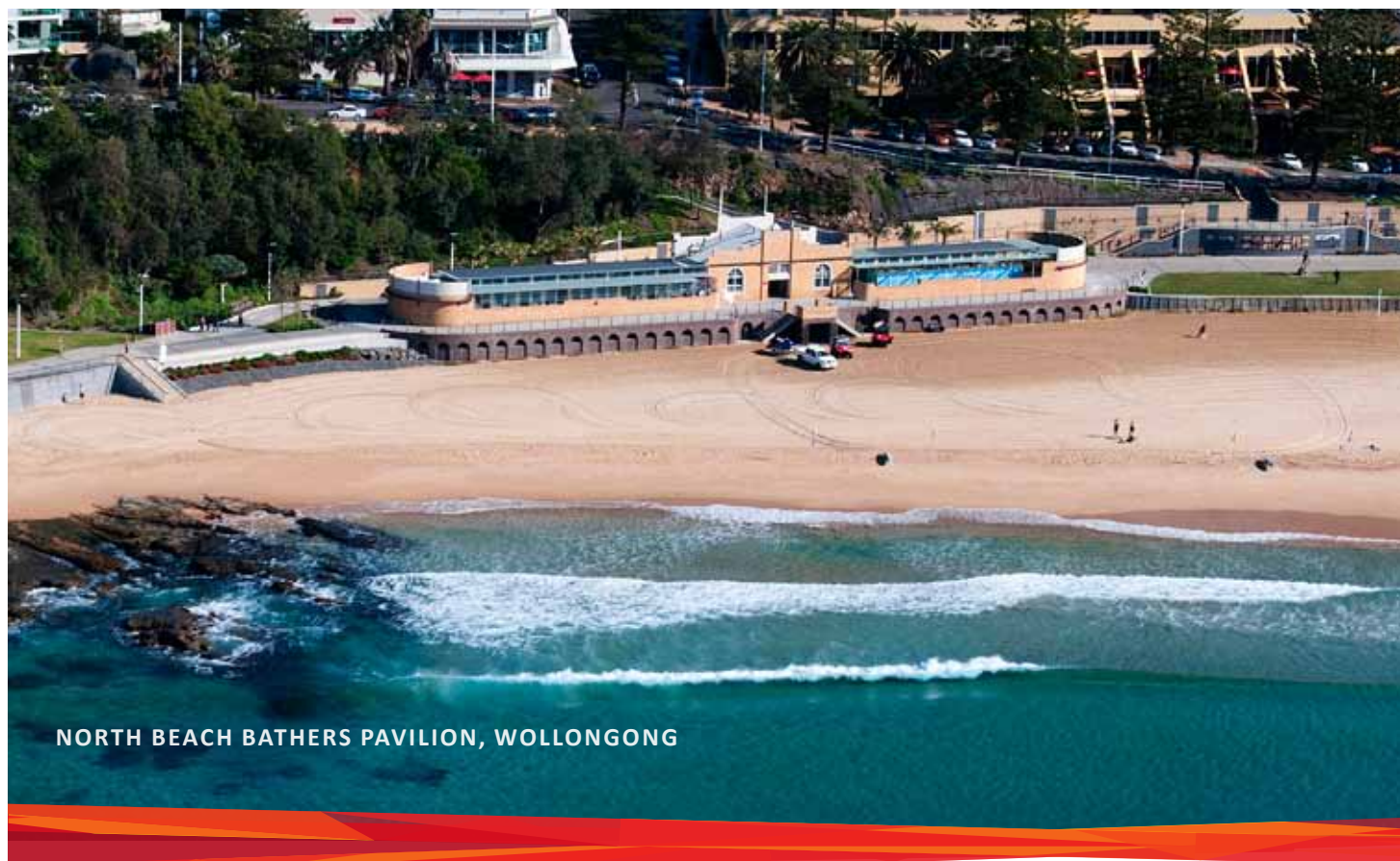
The new aged care facility integrates

flawlessly into the localised landscape of the site, and the end result is a facility that’s as impressive as any other in Australia.

“I would have no hesitancy in recommending Stramit ® building products” comments Mr Donn. “Our client, The Whiddon Group, is very satisfied with the end product – just as we are proud of the design and its construction.”

About Stramit®

Stramit Building Products is a major Australian manufacturer of roll-formed steel building products, including roof and wall cladding, guttering, fascia, purlins, flooring and structural formwork. These products, along with complementary products and services, are delivered through a nationwide network of manufacturing and distribution centres, strategically located to ensure coverage of major metropolitan and regional markets.



NORTH BEACH BATHERS PAVILION, WOLLONGONG

Concrete problems today are multifactorial - Root Causes

By Hamid Khan

Regular and planned asset maintenance is vital for reinforced concrete structures. Such maintenance shall not be a 'cosmetic repair' rather a proper root cause analysis must be carried out to identify and understand the actual source of the problem. Though material selection is an important step in asset maintenance and refurbishment projects but only after the root cause has been addressed. Conducting proper root cause analysis in restoration and refurbishment projects would prevent one from falling into a vicious cycle of 'repairing the repair'. A study conducted by Jingmond and Agren (2015) has highlighted the importance to look at the root causes of the defects in concrete from the organisational perspective as well, instead of the operational level only.

Defect or problem in an existing reinforced concrete structure is multifactorial; it often stems from obscure reasons. Like the cause of a common headache is often attributed to a pathological cause leading to expensive and often needless investigations and treatments, whereas, the actual cause is a stress-triggered tension headache. Similarly, stomach infections are common during monsoons in some countries, which are due to the 100 year old corroded sewage pipes leaking into the parallel running municipal water pipes. Point to ponder here is that whether treating the gastro patient with medicines or changing water filter would make the situation better without addressing the root cause of the problem or not?

Corrosion of the steel generates iron oxides and hydroxides, resulting in the increase of volume 5 to 10 times of its original size. This increase in volume causes expansive forces to accumulate within the concrete around



Linear Transverse cracks on new bridge deck due to plastic shrinkage- Surface grinding to open the face of the crack and sealing with epoxy resin



reinforcement and results in concrete spalling. Cracks provide easy access to oxygen, moisture, chlorides and other corrosive agents - the conditions suitable for electrochemical corrosion process. Bridge girders often exhibit unexpected end cracking upon pre-stress release, a concern for bridge asset owners. These cracks propagate into the bottom flange of the girder where strands are located and can increase in width with increased traffic loads. Leakages from bridge expansion joint penetrating the bottom flange cracks could easily trigger severe corrosion currents. In this case expansion joints leakage must be arrested prior to the crack and concrete repair activity. A common and predominant form of cracking at an early age on new concrete bridge decks is known as transverse cracking which appear along the length of span over transverse reinforcement. These cracks accelerate corrosion rates, reduce the service life of the asset and increase maintenance costs. Multiple factors such as materials and concrete mix design, ambient

temperature changes, humidity, bridge design characteristics and construction practices that contribute to volume change and/or to degree of restraint of concrete mass result in cracking. Transverse cracking cannot be attributed to all the above factors. It is important to identify the major contributing factor(s) to address the root cause of cracking.

A crude approach while examining the corrosion induced damage in bridge structures, particularly in the marine environment, is to assume the presence of chlorides as the main cause of failure. Chlorides might be the reason of corrosion but not the actual cause of the bridge defect. The root cause of failure of the bridge structure cannot be simply corrosion. There are many factors involved that could lead to corrosion and ultimately lead to failure of the bridge, such as, cracks in bridge girder web and flange, poor bridge drainage system, failed bridge deck waterproofing membrane, inappropriate bridge joints, void in the prestressed or post tensioned cable ducts due to excessive grout bleed. Other factors at macro level are related to design, material, environment and construction practices. It is important to address the main contributing factor(s) of the defects in bridge structures affected by corrosion.

It is quite common to observe local white patch of efflorescence which appears like a chalky powder at ground floors due to rising or penetrating horizontal dampness inside institutional buildings, hotels and residential apartment buildings. This phenomenon occurs



Concrete Cracks provide easy access to corrosive agents



Cathodic protection to bridge piers affected by cracks, corrosion and spalled concrete, using embedded galvanic anode units 'Galvashield XPT' (left) and distributed galvanic anode system 'Galvanode DAS' (right)



Balconies concrete corrosion and spalling due to multiple factors

due to number of factors. For example, one of the factors is the absence or damage of proper damp proof course due to which the moisture from the below ground or landscape planters outside hotel rooms seep through the external walls and result in dampness white patches along the perimeter of the internal wall. Treating the damp patch from inside could only solve the problem temporarily but it would recur unless the damp proof course is repaired.

Concrete repairs conducted without considering the actual source are 'cosmetic repairs' and last only for few months. For instance, repairing the spalled concrete of a balcony with quick-fix patch method, even applying the best quality repair mortar, would not solve the problem unless the root cause has been identified and addressed. It could be attributed to more than one cause such as leakage due to failure of waterproofing membrane, an AC drain pipe leak, faulty concealed pipe joints or the combination of these factors. Corrosion of reinforcement that has caused spalling of balcony is not the root

cause here.

Roof leakages in the buildings result in seepage to the flats below. This causes discomfort to the occupants and frequent disputes between the landlord and the tenant in regard to the liability to repair. The failure of roof waterproofing is often attributed to the poor workmanship. Based on this notion, the roof refurbishments are carried out but the leakages appear again after some period of time. A research conducted by Leung and Cui (2005), on roof construction defects have highlighted that the root cause of failure of the roof waterproofing membrane stems from the roof parapet wall cracks. It further concluded that the design and choice of material for roof parapet wall is critical to avoid the waterproofing membrane failures on the roof slab. Other reasons of roof leakages could be wrong termination details of the waterproofing membrane at up-stands and drains, improper selection of the waterproofing system and poor roof joint detailing.

Falling of the external tiles from the building facades can cause damage to assets and pose a potential safety hazard to pedestrians.



The number of casualties and injuries caused by the failures of external wall finishes is a serious concern to the authorities in many countries. Ho, Lo and Yiu (2005), in their research highlighted various factors that could lead to external tile failures such as thermal and moisture effect that induce movement of tiles, inferior quality adhesive, poor workmanship, improper joints, weathering, vibration and substrate properties. The failure could be due to a single factor or it could be an effect of a combination of the above factors. It is vital to recognise and address the major contributing factor of the de-bonding and falling of tiles.

Finding the real cause of a concrete problem rather than merely dealing with its symptoms is the key to success for a durable repair and refurbishment job. Aspirin quick-fix approach in handling concrete defects would only provide temporary cosmetic solution. The aim is to create an awareness among the civil contractors and engineers that to solve the concrete defects effectively they need to drill down through the symptoms to reach to the actual root cause. Re-examining, re-designing, re-assessing, re-selecting, re-applying and lots of 're-s', can easily be avoided by examining and fixing the root cause of the concrete defect to ensure the same problems are not recurring.

About the Author: Hamid Khan working presently as Brand Manager – Concrete Durability at Parchem (DuluxGroup), Australasia, holds a bachelor degree in Civil Engineering discipline. He also holds a double Master in Business and Strategy from the University of Wollongong. Hamid is certified in Concrete Technology and Construction, by City & Guilds of London Institute (UK) and is a qualified expert in Concrete repair & refurbishment with 18 years of experience in the industry. He was associated with Fosroc International in Dubai for 14 years taking up roles of Regional Specification Manager and Marketing Manager Strategy-Gulf States. Hamid's experience comes from the Gulf, Middle East, Europe, East Asia and Central Asia.



Soffits severely corroded due to roof leakages of a residential building

EXPANDED CBD PROGRAM CAN TACKLE MID-TIER BUILDINGS

The Australian Government's commitment to continue the Commercial Building Disclosure (CBD) program has been applauded by the Green Building Council of Australia (GBCA).

An independent review of the CBD program, which was developed to drive energy efficiency improvements in the commercial office sector, has found \$44 million in benefits have been realised in just four years.

"The review demonstrates why tackling energy efficiency in commercial office buildings is a smart solution to climate change – one that can be done at a minimal cost to industry and the tax payer," says the GBCA's Chief Executive Officer, Romilly Madew.

"The GBCA has always been a strong supporter of the CBD program, which has proven to be a critical driver in unlocking the emissions reduction potential of our buildings while raising awareness of building energy performance among building occupants, delivering cost savings and creating jobs," Ms Madew says.

Analysis from the review has found that improvements in base building energy performance, as measured by the building's NABERS rating, has delivered cumulative benefits of \$44 million between 2010 and

2014 – well in excess of the program's costs. The review also found a reduction in end-use energy consumption of 10,020 terajoules (TJ) and greenhouse gas (GHG) emissions of 2,051 kilotonnes of CO₂-equivalent (ktCO₂-e) over the period 2010 to 2023.'

The review has identified two enhancements to the program:

- Lowering the threshold for mandatory disclosure of energy efficiency information on buildings from 2,000sqm to 1,000sqm to capture smaller office buildings.
- Extending the length of time an office lighting assessment (known as a Tenancy Lighting Assessment) is valid from one to five years.

"Lowering the threshold for mandatory disclosure is particularly important, as it will open opportunities for greater energy efficiency in the mid-tier commercial buildings sector," Ms Madew says.

"There are an estimated 80,000 mid-tier commercial office buildings around Australia, but this sector has traditionally lagged behind in energy efficiency upgrades. Lowering the threshold for mandatory disclosure will prompt many building owners to explore the range of services, resources and technologies that can

deliver building upgrades, often at relatively low cost, with attractive payback periods."

Minister for Resources, Energy and Northern Australia Josh Frydenberg has said that "the delivery of the program, with the proposed enhancements, will deliver around \$60 million of benefits to consumers through to 2019."

Buildings are responsible for around a quarter of Australia's greenhouse gas emissions, but are also one of the most cost-effective opportunities to cut emissions.

"Expanding the program to include more buildings will help the Australian Government's target of increasing

Australia's energy productivity by 40 per cent by 2030," Ms Madew concludes.

About the Green Building Council of Australia

The Green Building Council of Australia (GBCA) is the nation's authority on sustainable buildings and communities. The GBCA's mission is to accelerate the transformation of Australia's built environment into one that is healthy, liveable, productive, resilient and sustainable. The GBCA works with industry and government to encourage policies and programs that support its mission. The Council educates thousands of people each year on how to design and deliver sustainable outcomes for Australia's buildings and communities. And it operates Australia's only national, voluntary, holistic rating system for sustainable buildings and communities – Green Star. See: www.gbca.org.au

ADVERTORIAL

SITELINE COMPOSITE WINDOWS AND DOORS COMBINE THE BEAUTY OF TIMBER WITH THE DURABILITY OF ALUMINIUM

There's a choice everyone makes when building or renovating a home – a classic or modern look, or a mix of both. Timber tends to be popular with traditional styles, while metals lend themselves to a more contemporary, industrial look and feel. Metals are also practical and long-lasting, without the need for constant upkeep.

Stegbar's Sitaline composite windows and doors effortlessly merge the beauty and warmth of timber on the inside with the durability and practicality of aluminium on the outside. The timber showcases the window or door internally, complementing the interior design of the home, while the aluminium provides a virtually maintenance-free

exterior.

With an ever-increasing number of Australians becoming environmental and energy conscious (and the contribution energy-efficiency makes to lowering household energy bills), Sitaline is a smart choice as the timber halts the transfer of heat that would otherwise occur through the aluminium frame. The energy-efficient glass reflects the sun's energy, preventing it from entering in summer, while reducing the amount of heat lost in winter by reflecting it back inside.

"Modern glass is of a much higher quality than years past and this



allows for homes with much bigger windows to allow for more natural light to flow through a home,” said Christine Evans, Stegbar’s National Marketing Manager. “Due to the properties of the timber, which is sourced from environmentally sustainable forests, energy-efficient glass and single or double glazing options, Sitrine’s windows and doors can help to achieve a 6-star energy rating or higher.”

Sitrine products are also engineered to protect the home without compromising style and are suitable for installation in bushfire areas. The windows and doors also feature a quality frame that is treated to resist water saturation, swelling and warping, ensuring they easily open and close every time.

A wide selection of products make up the Sitrine range, including bi-fold, awning, casement, sliding and fixed windows, and bi-fold hinged and sliding doors. Each style has its own unique characteristics that are designed to seamlessly compliment the home whilst also showcasing the homeowner’s individual tastes.

Sitrine windows and doors are available in either western red cedar or pine, which can be stained or painted in any colour, or left as a natural light coloured pine. Stegbar’s standard and custom range of anodised, powder-coated aluminium colours and finishes create a weatherproof exterior that provides protection against the elements.

Every Sitrine window and door carries a specific guarantee, covering workmanship, performance and durability for up to seven years.

For anyone needing design or practical advice on windows or doors, the Stegbar Installation Service (SIS) is a team of professional experts that can guide you through the process from product recommendation and selection through to delivery and installation. The SIS can help to choose the right glazing and glass solution to suit local conditions and individual needs.

Sitrine windows and doors are part of Stegbar’s range of quality building products. For more information, visit stegbar.com.au

Head office contact details

ceo@aib.org.au

Unit 10, Building C,
Trevor Pearcey House, Traeger Court,
28-34 Thynne Street, Bruce ACT 2614
PO Box 705 Jamison ACT 2601

National Office Telephone +61 [0] 2 6253 1100

National Office Facsimile +61 [0] 2 6253 4411

Accounts	accounts@aib.org.au
Construct Magazine	marketing@aib.org.au
Education	ceo@aib.org.au
Events	events@aib.org.au
Marketing	marketing@aib.org.au
Membership	membership@aib.org.au
Merchandise & Book Sales	events@aib.org.au
National Sponsorship	marketing@aib.org.au
Policy & Advocacy	ceo@aib.org.au
Professional Excellence Awards	marketing@aib.org.au

Chapter offices

New South Wales & ACT	nswbuild@aib.org.au
Queensland	qldbuild@aib.org.au
Victoria	vicbuild@aib.org.au
South Australia & NT	sabuild@aib.org.au
Tasmania	tasbuild@aib.org.au
Western Australia	wabuild@aib.org.au
Hong Kong SAR	hong.kong@aib.org.au

AIB National Council

Norman Faifer FAIB FAIQS FIAMA	National President
Paul Heather FAIB JP	National Senior Vice President
Graham Teede FAIB	National Vice President
Ron Webber FAIB FAIBS FRICS FCIQB MAIPM	National Vice President
Robert Whittaker AM FAIB	Immediate Past National President
John Gaskin FAIB	Council Representative - Queensland
William (Bill) Mansell FAIB	Council Representative - New South Wales
Peter Henden FAIB	Council Representative - Australian Capital Territory
David Burnell FAIB	Council Representative - Victoria
Damian Rogers FAIB	Council Representative - Tasmania
Geoff Penley FAIB	Council Representative - South Australia and Northern Territory
Frank Dilizia FAIB	Council Representative - Western Australia
King Wong FAIB	Council Representative - Hong Kong
Robin Fardoullys LFAIB	Council Representative - Overseas

What you really need to know about Polystyrene EIFS - Lightweight Cladding Systems...

At Dulux® AcraTex® we've been designing specialist finishing systems for over 3 decades protecting some of Australia's landmark architecture and infrastructure projects.

External Insulating and Finishing Systems (EIFS), long established in Europe and America are now being recognised in Australia for their benefits.

What Experience tells us...

1. Expanded Polystyrene (EPS) requires specialist "Base Coats" to provide long term adhesion and durability.

Beware of suppliers/installers using Cement Renders

or even their labelled "Acrylic Renders". Expanded foam requires a high polymer base coat for adhesion - much higher than most "Acrylic Renders"

2. Cavity Drainage is critical in ensuring stability of the facade.

This is Best Practice Design for traditional construction and is equally applicable in any Lightweight Cladding System.

3. Integration of Design, Components and Installation is required to ensure "as built" meets design specification. Lightweight Cladding Systems are able to be installed by a broader installer base (vs traditional masonry). In the BCA their use is classified as an Alternate Solution requiring validation. CodeMark™ certification is an acceptable approach, however it is important that Certification cover the full aspects of the relevant BCA requirements and that Installation is controlled to ensure full compliance.

4. Rigid, cement based renders and paint systems are unsuitable to



maintain a weather-proofing envelope. Lightweight Cladding Systems (EIFS or FC) require Flexible Acrylic Texture and Elastomeric Topcoats to accommodate normal expansion and contraction.

Over recent years the use of Lightweight Cladding Systems, as Alternate Solutions in the BCA, has grown but proper system design and installation has not always followed.

The BCA requires appropriate design and installation controls to qualify any Alternate Solution and ultimate success requires a total systems approach integrating Design, Componentry & Installation.

The Exsulite® Thermal Facade system protects Builders from the risks of mixed componentry and uncontrolled



installation. Exsulite by Dulux AcraTex offers a Single Supply Source - and critically, Installation of the CodeMark Certified System by registered and Trained Exsulite Installers.

Learn more at the new Exsulite website at www.exsulite.com.au

Smart System. Exsulite®

The facade system you'll love

Introducing **Exsulite**, a fully integrated lightweight thermal cladding solution from a single trusted supplier, **Dulux®**.

Delivering:

- Design Flexibility
- Energy Efficiency
- Weatherproof Barrier System
- Full BCA Compliance*

Free documentation downloads at our new **Exsulite** website.

Registered Users have access to **Exsulite** and **Exsulite-Kooltherm®**;

- Specification and installation manuals
- Construction drawings in CAD and Revit file formats
- **Exsulite** news and latest document updates emailed to your inbox

Register now at www.exsulite.com.au

Smart System. Extra Design Flexibility

For more choices in wall articulation

Smart System. Thermal Efficiency

R3 – R7 System Options

Smart System. BAL 29 Certified† BAL 29

Approved for use in bushfire prone areas

Smart System. CodeMark™ Certified†


Fully Certified System/National Installer Network



*Exsulite and Exsulite-Kooltherm are CodeMark certified as fully integrated Building Systems in compliance with the Building Code of Australia (Volume Two, Class 1 and 10 residential buildings). Exsulite-Kooltherm is also certified for Multi-Residential External Walls to NCC (Volume One, Class 2 to 9 buildings).
†Compliance to standard is relative to the Specification & Installation of the Full System as detailed in the relevant System Certification.

Learn more at exsulite.com.au | 1300 662 841

Dulux AcraTex 1 Jeanes Street, Beverley SA 5009.
Dulux® AcraTex® is a division of DuluxGroup (Australia) Pty Ltd. ABN 67 000 049 427.
Dulux®, AcraTex® and Exsulite® are registered trade marks of DuluxGroup (Australia) Pty Ltd.
Kooltherm® is a registered trade mark of Kingspan Group PLC.
CodeMark™ is a trade mark of Cert Mark Australasia Pty Ltd.

Exsulite®
Thermal Facade System by 

Advanced Protection whatever the weather

AcraShield® Advance provides high build barrier protection against weathering, masonry expansion & contraction cracking and concrete cancer.

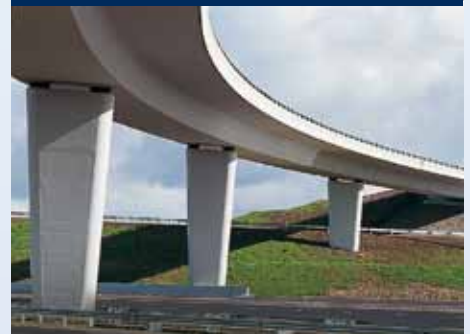
Weather Resistant



Crack Bridging



Anti-Carbonation



AcraShield® ADVANCE

For further information go to acratex.com.au
Dulux Customer Service: 13 23 77

