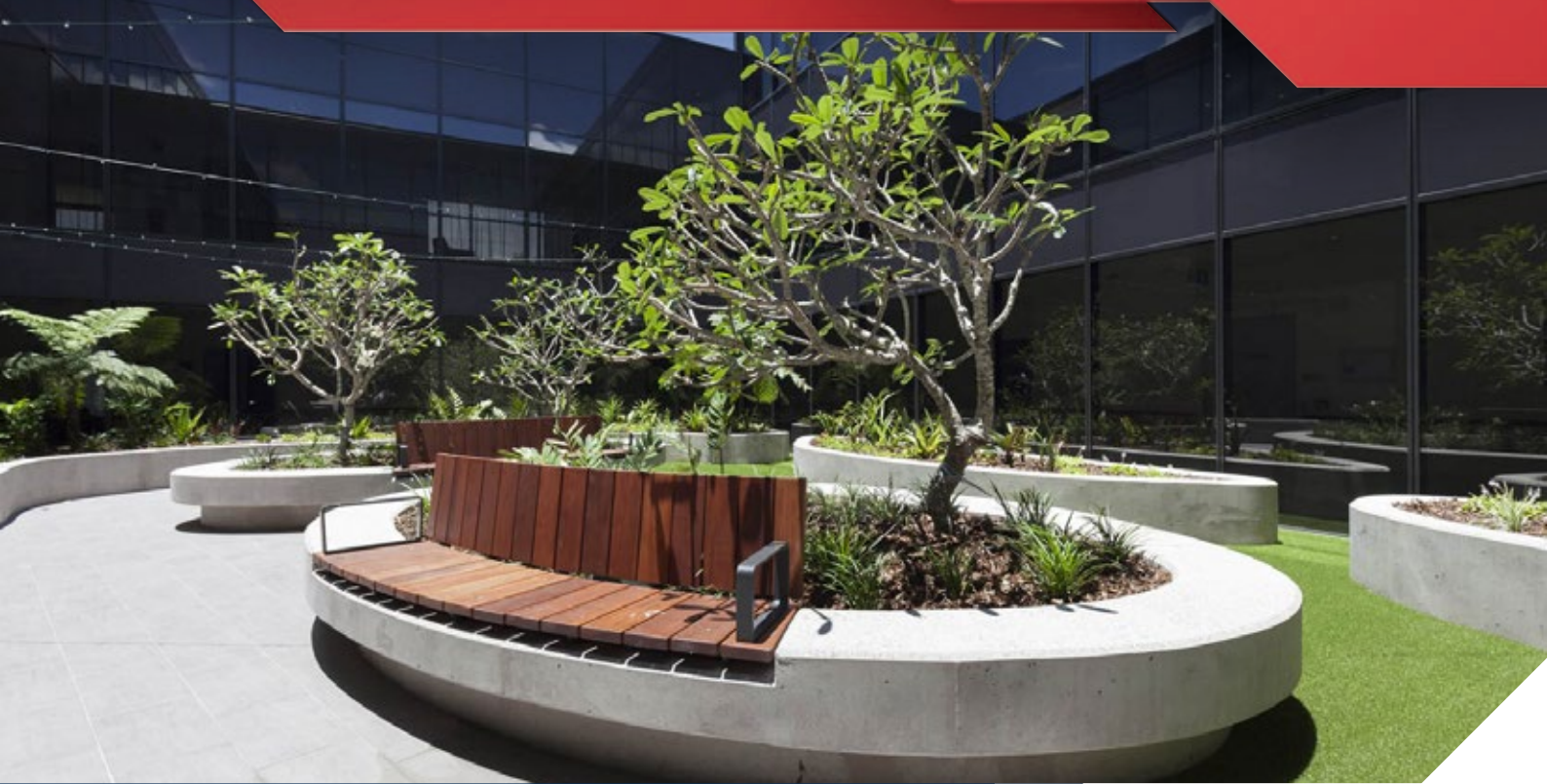


# CONCRETE IQ

Concrete IQ is the official magazine of Master Concreters Australia

ISSUE 1, 2019



## 2019 MCA EXCELLENCE IN INDUSTRY AWARDS



MCA and our principal sponsor Holcim are pleased to announce the 2019 Excellence in Industry Awards will be held at the Emporium Hotel South Bank on Saturday 1 June 2019.

Projects completed by MCA contractor members will vie for the various category awards and supreme award. The Awards will once again showcase the high standards and professional work of our contractor members. We look forward to joining with our members and guests at this major industry event and to acknowledge the contribution we all make to the construction industry.



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CONCRETERS**

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## MCA HOTLINE

Our highly experienced members can provide advice on various issues affecting concrete contractors through our MCA Hotline.

Members may contact our Hotline representatives or if it is more convenient, call the office on 1300 884 544 and they will start the ball rolling.

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## CEO'S REPORT

Welcome to the first edition of the Association's magazine for 2019. This year will no doubt herald changes to the construction industry landscape as we see a State election in New South Wales followed by the Federal election to be called before June. It goes without saying that changes to the political landscape will affect our industry, however, it will be the inevitable waiting game to see in what form they will take.

Queensland is pushing forward with changes resulting from the introduction of the Building Industry Fairness (BIF) Act, which has seen the introduction of project bank accounts and changes to the procedures for progress payments and dispute resolution. The introduction of the BIF Act is a positive step for the industry and will improve contracting conditions for subcontractors. Phase II of the governments plan is to roll out project bank accounts on all projects (within a prescribed value) following a report from the review panel due in April.

Members would also note the recent publicity in relation to the Opel Towers incident. The New South Wales Government has announced a major overhaul of the way high rise apartment buildings are built starting with the appointment of a Building Commissioner. Members have indicated their concern at the lack of regulation beyond the domestic market and we hope to see positive changes.

On the coal face, members are reporting steady levels of activity notwithstanding a softening of apartment construction, most notably in Melbourne and to a slightly lesser extent in Sydney. Industry reporting nationally has indicated that revenue from multi-level apartment building work is expected to decline by 4.8% in 2018/19 and fall sharply in 2019/20 by 17.6%.

## WELCOME TO A NEW YEAR

On a more positive note, commercial building activity (including offices, retail buildings and industrial premises) is anticipating moderate growth over the next two years in line with rising private and public-sector investment. It is anticipated an 8.7% increase will be reflected in this financial year followed by a 6.3% increase in 2019-20.

On the training front, it is pleasing to note the review of the Certificate III in Concreting (our nationally recognised trade qualification) has been completed with the qualification being approved and released in late January. An article has been included in this edition outlining the changes to the qualification's make up, which is now more reflective of the skills required by a concrete placer on site.

As members would be aware the association delivers training and holds periodic seminars and information sessions on topics relating to concrete practices. The association is currently developing an information session on 'Quality Assurance and Contractual Best Practice for Concrete Tolerances'. Once we have fine tuned the content, the information session will be delivered to our members and the wider industry in Sydney and Brisbane. Watch this space.

Finally, planning is well underway for this year's Master Concreters Australia Excellence in Industry Awards. Our event will be held on Saturday 1 June in Brisbane, for what will be another outstanding night for our industry. Interest is high this year and we are already looking at a number of nominations from first time entrants into the awards. Nominations and registration forms have been sent out to our contractor members. As always, I encourage all our members to either nominate or attend the awards, which is a showcase of our industry.



# REVISED CERTIFICATE III IN CONCRETING APPROVED

After a somewhat drawn out process our nationally recognised trade qualification has passed through the review process and has been issued. All individuals signing into the qualification as an Apprentice or Trainee will be signed into the new qualification. The main activity for the review was an update to the assessment requirements, which brought the qualification in line with other construction qualifications that were also required to undergo this process.

Atribus (the reviewing organisation) also used the opportunity to review the make-up of the qualification in view of current industry practises. The Association worked closely with Atribus to ensure that skills required by all concreters are in the compulsory section of the qualification and not electives or optional skills which was a concern with earlier versions.

The Association has been involved in previous revisions and provided details in relation to current technology and practices. Also, the scope of the concreter has increased and in many cases are required to provide a turn key solution, which includes a wider range of skills than was previously mandated in the qualification.

As touched on above, the main changes in the recently released qualification relates to the addition of core knowledge and skills. Apprentices have to display knowledge and practical competence in erecting formwork on ground, placing and fixing reinforcement material and conducting a concrete slump test. While any concreter would consider those skills a given, previous versions of the qualification included these skills as optional and not mandatory to achieve the qualification. It is pleasing to note that State Training Authority in WA has previously recognised that the knowledge and skills required by concreter is reflective of an apprenticeship and changed their training pathway from a traineeship to an apprenticeship. With the introduction of the increased skills in the latest version of the qualification the association will be working with the remaining States and Territories to redesignate their traineeship to an apprenticeship.

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# DURABLE CONCRETE FLOORS

Durable concrete floors begin with quality materials, good design, and proper workmanship. Beyond these essentials, measures can be taken to ensure your concrete floor is protected. If deterioration occurs, understanding its cause can help with the repair and prevention.

Many concrete slab surface defects (delamination, dusting, etc) and problems with floor flatness can be attributed to the quality of the material and/or the placing and finishing techniques. Retaining an expert installer who knows their locally available concrete material can be an important step in achieving good quality concrete floors. As an installer, having the right concrete mixture for the job and sufficient labor and equipment to properly place, consolidate, and finish the fresh concrete is crucial.

Beyond quality floor construction, implementation of surface or penetrating sealers can improve the wear resistance or protect concrete from chemical attack. There are a variety of surface sealers for use on concrete slabs. If your application is to protect a stained interior residential floor or prevent excessive wear and abrasion on an industrial slab, the appropriate surface treatment will vary.

When slab defects do arise, understanding their cause can help in repairing and preventing them in the future. These defects may be scaling, random cracking, crazing, or a delamination.



# WHY YOU NEED TO PUT YOUR PRICES UP... TODAY

The cost of doing business is continually rising. Your materials are increasing in price, as are overheads such as insurance, power, fuel and salaries.

Let me ask you; how long has it been since you last raised your prices?

When asking this of first-time clients, most often, the answer comes back as "over 12 months ago", "18 months ago", or "2 years ago". When clients have not put their prices up for over 12 months I ask; why not?

The answers are usually few and far between and rarely justified. Let us explore why as a business you need to put your prices up regularly...

Your expertise is growing. As you increase the number of years you are in business, and also the quality of your team, your expertise needs to be rewarded. Customers are paying for your experience, not your time. Therefore, if you charge a flat rate on the majority of jobs, it is up to you to deliver in the shortest amount of time.

- You are probably already undercharging for the labour component of your work. Do you know the true cost of employing your team? When you take into account the hourly rate that you pay someone, superannuation, an allowance for annual leave, sick leave, public holidays, RDOs, non-billable travel, and meeting time, you find that the hard cost to employ someone can be anywhere from 1.3 to 1.5 x their nominal paid hourly rate. You then need to add an overhead component to every hour that the employee is on site. This is often referred to as an overhead recovery cost, and would vary from business to business. You'll then add your margin on that hour to the total of all of this. How clear are you on what this is in your business?
- It's better to be at the top of the price range of your industry than at the bottom. Some clients would automatically want to use your services because you are more expensive than the rest. We work with

our clients to ensure that they are in the top 10% of the pricing bracket of their industry... and deliver the value to ensure that the clients' expectations are met. I guarantee that you have paid more for something than you originally thought you were going to because you saw the value.

- Your standards need to rise. Your business results are often a reflection of the standards you set for yourself. By valuing yourself as a professional of your trade, and an expert in your field, you deserve to be paid more for what you do. You deliver quality every time and therefore as you continue to improve the quality of what you deliver, in time, your remuneration should rise.
- You can do less work for the same profit. When you know your numbers, you will recognise that you can get by doing less work to meet the same profit margins when you increase your price. An example is, if your gross profit margin is 50% and you increase your prices by 10% you can afford to do 25% less work during the year and make the same gross profit. Doesn't that sound exciting?

Raising your prices is quite simple, however you would have to deal with the emotional side that may come up, such as; "Will I still win the work?" "What happens if I don't?" "What will other people say?" "Am I really worth it?" This will be addressed in a future article, so stay tuned.

If you would like to know how to increase your prices, deliver value, and become a true professional of your trade, contact PROTRADE United.

Written by Jon Mailer  
CEO of PROTRADE United  
[www.protradeunited.com.au](http://www.protradeunited.com.au)



# CHANGES TO THE HEAVY VEHICLE NATIONAL LAW



The Heavy Vehicle National Law (HVNL) and Heavy Vehicle (Fatigue Management) National Regulation (Regulation) were amended on 1 October 2018, which established new Chain of Responsibility (CoR) laws for transport activities related to a heavy vehicle (4.5 t +).

Before CoR laws were introduced, heavy vehicle drivers were held responsible for practically all breaches. But under CoR, these responsibilities are shared along the chain, as are the penalties for breaches.

The new laws operate such that all parties involved in a heavy vehicle supply chain share responsibility in ensuring the HVNL and Regulation are complied with. This means the safety of transport and logistics activities will be a shared responsibility between all parties, with each party to have their own role. This is a shift away from the traditional model where the owner typically assumes all liability.

## FATIGUE

Driver fatigue and drowsy driving is a major safety hazard for all vehicles using Australian Roads. From 2013 to 2017, more people died in fatigue-related crashes than drink driving crashes. This is somewhat unsurprising when you take into account that being awake for about 17 hours has a similar effect on performance as a blood alcohol content (BAC) of 0.05.

Telling heavy vehicle drivers and operators to take a break and have a nap is however easier said than done. Impractical timeframes placed on drivers, particularly in the delivery of cement, unintended incentives in business practices encouraging drivers to work while fatigued, poorly planned trip schedules and a lack of understanding about work and rest times set out in the HVNL means that fatigue compliance must be deeply and seamlessly integrated into a business' commercial activities in order to be effective.

The new laws require:

- Drivers not to operate a fatigue related heavy vehicle while impaired by fatigue.

- Each CoR party to ensure, so far as reasonably practicable, that it does not act in a way that directly or indirectly causes a driver to breach his or her Primary Duties (including fatigue related duties). A Primary Duty only applies if the vehicle exceeds 4.5 tonnes in gross vehicle mass. Depending on the weight of the vehicle, activities involving cement trucks fully laden are likely to attract a Primary Duty. Whether something is "reasonably practicable" will depend on the circumstances by weighing up several different factors. These will include:

- a) the likelihood of a safety risk, or damage to road infrastructure, happening; and
- b) the harm that could result from the risk or damage;
- c) what the person knows, or ought to know, about the risk or damage; and
- d) what the person knows, or ought to know, about ways of preventing or minimizing the risk or damage;
- e) the availability and suitability of those ways; and
- f) the cost associated with the available ways.

- Any person not to act, direct or require a driver or a CoR party to do something that the person knows or ought reasonably to know, would have the effect of causing the driver to drive while impaired by fatigue, drive while in breach of his or her work or rest hours option, or drive in breach of any other laws to avoid driving while impaired by fatigue.

The extent of a party's responsibility will depend on the functions they perform and their capacity to control or minimize the risk. Accordingly, a higher level of responsibility is afforded to those with greater control or influence over transport activities that pose a safety risk.

## COUNTING TIME

The HVNL and the Regulations also require that work time and rest time be counted in a certain way. This is to ensure drivers better manage work and rest times and prevent driver fatigue.

The new laws require drivers to avoid:

- Working more than the maximum work time stated in the standard hours for the period
- Resting less than the minimum rest time stated in the standard hours for the period.

The standard work and rest hours for a given period are set out in tables in Schedule 1 of the Regulations.

## WHAT SHOULD YOU DO IF YOU HAVE A DUTY?

If you have a Primary Duty under the HVNL, there a number of things you should do to ensure you remain compliant with your obligations.

It is recommended that you:

1. Assess the potential risks that may arise in connection with the activities of the organisation and determine whether they can be minimised or eliminated;
2. Discuss and amend your contractual responsibilities with supply chain partners to ensure they are consistent with your chain of responsibility obligations;
3. Maintain records of your policies and procedures for managing risks, particularly around fatigue compliance;
4. Engage auditors to assess compliance with your policies and procedures;
5. Implement systems that assist in risk reporting; and
6. Implement systems to remedy breaches.

If you require further information about your obligations under the HVNL, visit [www.nhvr.gov.au](http://www.nhvr.gov.au) or feel free to contact Thomson Geer.

**THOMSON GEER**  
LAWYERS

If you have any questions in relation to this article or for any other legal issues, feel free to contact the Thomson Geer Help Desk to discuss.

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# CHEMICAL ADMIXTURES

Chemical admixtures are the ingredients in concrete other than portland cement, water, and aggregate that are added to the mix immediately before or during mixing. Producers use admixtures primarily to reduce the cost of concrete construction; to modify the properties of hardened concrete; to ensure the quality of concrete during mixing, transporting, placing, and curing; and to overcome certain emergencies during concrete operations.

Successful use of admixtures depends on the use of appropriate methods of batching and concreting. Most admixtures are supplied in ready-to-use liquid form and are added to the concrete at the plant or at the jobsite. Certain admixtures, such as pigments, expansive agents, and pumping aids are used only in extremely small amounts and are usually batched by hand from pre-measured containers.

The effectiveness of an admixture depends on several factors including: type and amount of cement, water content, mixing time, slump, and temperatures of the concrete and air. Sometimes, effects similar to those achieved through the addition of admixtures can be achieved by altering the concrete mixture—reducing the water-cement ratio, adding additional cement, using a different type of cement, or changing the aggregate and aggregate gradation.

## FIVE FUNCTIONS

Admixtures are classed according to function. There are five distinct classes of chemical admixtures: air-entraining, water-reducing, retarding, accelerating, and plasticizers (superplasticisers). All other varieties of admixtures fall into the specialty category whose functions include corrosion inhibition, shrinkage

reduction, alkali-silica reactivity reduction, workability enhancement, bonding, damp proofing, and colouring. Air-entraining admixtures, which are used to purposely place microscopic air bubbles into the concrete, are discussed more fully in Air-Entrained Concrete.

## AIR-ENTRAINED CONCRETE

Air-entrained concrete contains billions of microscopic air cells per cubic foot. These air pockets relieve internal pressure on the concrete by providing tiny chambers for water to expand into when it freezes. Air-entrained concrete is produced using air-entraining portland cement, or by the introduction of air-entraining agents, under careful engineering supervision, as the concrete is mixed on the job. The amount of entrained air is usually between four and seven percent of the volume of the concrete, but may be varied as required by special conditions.

**Water-reducing admixtures** usually reduce the required water content for a concrete mixture by about 5 to 10 percent. Consequently, concrete containing a water-reducing admixture needs less water to reach a required slump than untreated concrete. The treated concrete can have a lower water-cement ratio. This usually indicates that a higher strength concrete can be produced without increasing the amount of cement. Recent advancements in admixture technology have led to the development of mid-range water reducers. These admixtures reduce water content by at least 8 percent and tend to be more stable over a wider range of temperatures. Mid-range water reducers provide more consistent setting times than standard water reducers.

**Retarding admixtures**, which slow the setting rate of concrete, are used to

counteract the accelerating effect of hot weather on concrete setting. High temperatures often cause an increased rate of hardening which makes placing and finishing difficult. Retarders keep concrete workable during placement and delay the initial set of concrete. Most retarders also function as water reducers and may entrain some air in concrete.

**Accelerating admixtures** increase the rate of early strength development, reduce the time required for proper curing and protection, and speed up the start of finishing operations. Accelerating admixtures are especially useful for modifying the properties of concrete in cold weather.

**Superplasticisers**, also known as plasticisers or high-range water reducers (HRWR), reduce water content by 12 to 30 percent and can be added to concrete with a low-to-normal slump and water-cement ratio to make high-slump flowing concrete. Flowing concrete is a highly fluid but workable concrete that can be placed with little or no vibration or compaction. The effect of superplasticisers lasts only 30 to 60 minutes, depending on the brand and dosage rate, and is followed by a rapid loss in workability. As a result of the slump loss, superplasticisers are usually added to concrete at the job site.

**Corrosion-inhibiting admixtures** fall into the specialty admixture category and are used to slow corrosion of reinforcing steel in concrete. Corrosion inhibitors can be used as a defensive strategy for concrete structures, such as marine facilities, highway bridges, and parking garages, that will be exposed to high concentrations of chloride. Other specialty admixtures include shrinkage-reducing admixtures and alkali-silica reactivity inhibitors. The shrinkage reducers are used to control drying shrinkage and minimize cracking, while ASR inhibitors control durability problems associated with alkali-silica reactivity.



**2019**

**EXCELLENCE IN INDUSTRY**

*Awards*

Master Concreters Australia invites members and their guests to the MCA Excellence in Industry Awards 2019

**DATE** SATURDAY 1 JUNE

**VENUE** EMPORIUM HOTEL SOUTH BANK, 267 GREY ST, SOUTH BANK

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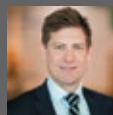


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