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DECEMBER 2022

iNFORMER

YOUR QUARTERLY FRC NEWS & TECHNICAL UPDATE FROM INFORCE

A MESSAGE FROM THE MANAGING DIRECTOR

This issue marks our 10th quarterly iNFORMER Magazine, which ties in nicely with the last hurrah for 2022!

It's been rewarding getting the iNFORMER series underway and we've come a long way since we let the first edition loose back in February 2020.

We trust it's a useful resource for you, hopefully offering some inspiration from seeing the different projects we get involved in and what we can achieve with optimising slabs and pavements around Australia and New Zealand.

2022 has been a big year for Inforce and a record-breaking one at that, with growth and new staff members across both countries giving us the ability to better manage and serve our ever-growing client base.

It's been a tough one as far as logistics goes, but we've found a way to work

through it thanks to our passionate and loyal team who have gone over and above to keep projects on schedule.

We've introduced an exciting new offer within Inforce as well which gives us the ability to not only optimise designs with concrete, but with asphalt as well.

This is a timely addition with the current scrutiny on the resilience of our roading network, and we're looking forward to working with key industry players in this space in the coming months as well.

We sincerely appreciate your support over the year and a hearty thank you to those that have trusted Inforce to optimise concrete floors and pavements in your projects.

We hope you have a safe and happy holiday period and look forward to cracking back into it come January 9th.

Sincerely,
Tom McGaveston | Managing Director



“ Thanks for joining us on the journey to our 10th issue of the iNFORMER! ”

Sales Team Quarterly Summit at Wither Hills Winery

UNDER CONSTRUCTION: CLEANAWAY SLAB, ADELAIDE SA



the capacity to handle the repeated movements of waste vehicles and B-Doubles.

THE PROJECT

After using an Inforce slab design on a prior project, the construction company of this new build in South Australia for Cleanaway looked to Inforce again to assist with the optimisation of the yard slab.

With a number of factors at play here, including unforeseen weather events during construction, there is over 17,000m² of concrete here that has

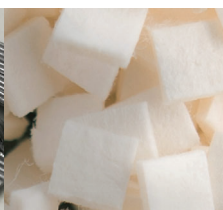
OUR SOLUTION

Using our core value of Making It Easy, Inforce was able to replace the conventionally designed slab with a fibre only slab. This provided significant time and cost saving for the project and client, particularly in the light of the weather events.

Kudos to the Xtreme Concrete Construction team for the excellent execution of these slabs.



ASK INFORCE : WHY ARE FIBRE TYPES IMPORTANT?



Often we get calls from customers who are simply asking for 'some fibre to add to the concrete.'

Unfortunately, it's not quite that simple: there are different types of fibre, and within those fibres there are different tensile strengths and characteristics that make a particular fibre the correct one for the application.

For example, we have steel fibres like Proforce for structural applications

with higher tensile strengths for use in large jointless floors and heavy duty applications.

At the other end of the scale there are cellulose fibres like Ultrafiber500 that aren't structural, but instead serve to reduce the risk around plastic cracking.

Getting the right fibre for the right application is key, so give the team at Inforce a call to discuss the details of your next project.



ASK AN ENGINEER: **HOW CAN WE BETTER CONTROL EARLY AGE CRACKING IN CONCRETE?**

With the summer season upon us, the risk of plastic shrinkage in concrete becomes more pronounced and can be a tremendously frustrating issue for both contractor and asset owner.

There can be many variables that affect plastic cracking, but here are some of the most common ones to look out for.

1. WIND

The most common culprit. As the saying goes, “if its good weather to dry washing, its bad weather for placing concrete!”

Even a decent drying breeze can create serious problems for concrete. The best preventative for internal slabs is to pour the slab last, once the walls and roof are on, to protect the concrete during the placing process. Externally, this is more difficult, and care needs to be taken with applying Anti-vap as you go, or being prepared to call the pour off if the weather isn't playing ball.

In most cases, a delayed pour is preferable to forging ahead and having to deal with plastic cracking issues later.

2. RESTRAINT

Almost as soon as the concrete is on the ground it will start to shrink, and if there is something to restrain the concrete from shrinkage uniformly you are likely to see a crack form.

Common restraints are slab penetrations such as pipes, manholes or columns; edge thickenings; being tied into foundations or kerbs; or existing concrete jutting into the pour. These can be managed through the use of timely sawcuts or trimmer bars.

3. HEAT

Heat causes similar issues to wind but is generally more manageable with antivap and a proper curing process.

Summer heat is inevitable in a lot of places and making sure you are set up with the correct product and equipment to apply antivap as you go is paramount.

If not using DPM, ensure the base is well wetted before pouring concrete so the dry base doesn't 'suck' moisture from the slab. A common practice for curing is the use of a sprinkler which, if its not consistent (e.g. wetting then allowing to dry, then wetting again), will cause even more problems around thermal shock - but that's a subject for another day.

4. SLUMP

The wetter the mix the more shrinkage you get and the higher the risk of plastic cracking. Reduce the slump as much as practically possible, but take into account other factors such as pumping. Talk to your concrete plant about the use of water reducers and pump aids as required.

5. CURING

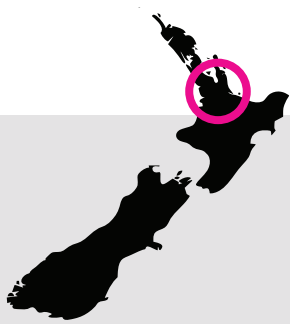
A large topic and one that's much to big to cover in a single bullet point, but it's critical to get right. So many slab issues arise from incorrect curing processes and this seems to be a shortcut many try to take.

When the concrete is in its early stage, it needs hydration and some TLC!

Inforce carries a polypropylene microfibre called Microforce and a cellulose fibre called Ultrafiber500. These both significantly reduce the risk around plastic shrinkage cracking, giving extra tensile strength to the concrete while it's in a plastic state.

These fibres come at an insignificant cost but offer a great insurance policy during the curing process.

FUTURE ROADS CONFERENCE HAMILTON, NZ



Inforce was part of the inaugural Future Roads conference held at the Claudelands Events Centre in Hamilton where we launched ACE - our new asphalt reinforcing fibre.

Developed and manufactured in the USA, ACE fibre is being rapidly adopted stateside due to the astonishing strength and durability it gives to asphalt. You can see why when you can claim numbers like 50% increase in rutting resistance, 150% increase in strength, 140% increase in crack resistance and 290% increase in fatigue life - these numbers that make you sit up and take notice!

Inforce is looking forward to bringing this fascinating new technology to the Australian and New Zealand markets, making longer-lasting and more resilient roads. If you're designing asphalt pavements for roading, ports, carparks and more, please get in touch to find out more about this fantastic new product.



MEET THE TEAM: JIM WRIGHT

Jim Wright joined the Inforce team in November based out of our Adelaide office in South Australia.

Jim comes from a project management role within the construction industry and has an excellent understanding of what makes projects go well and what doesn't.

Doubling our 'boots on the ground' in Australia is already returning excellent results: Inforce is able to be much more hands-on with key clients and critical projects to make sure everything runs smoothly.

iNFORCE
SIMPLIFY WITH CONFIDENCE.