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A NEW NORMAL

INFORCE, like many kiwi businesses, is facing a new normal in terms of business procedures and processes post COVID.

Fortunately, our team has been able to hunker down and keep on churning out our core solutions and products for our clients through this time. We already had in place a strong remote working culture, with various offices around the country. This has made our new normal quite seamless and kept our person to person contact very low.

It has also presented new opportunities to connect, such as our Online Training Sessions which you can learn about further in our next issue of Informer.

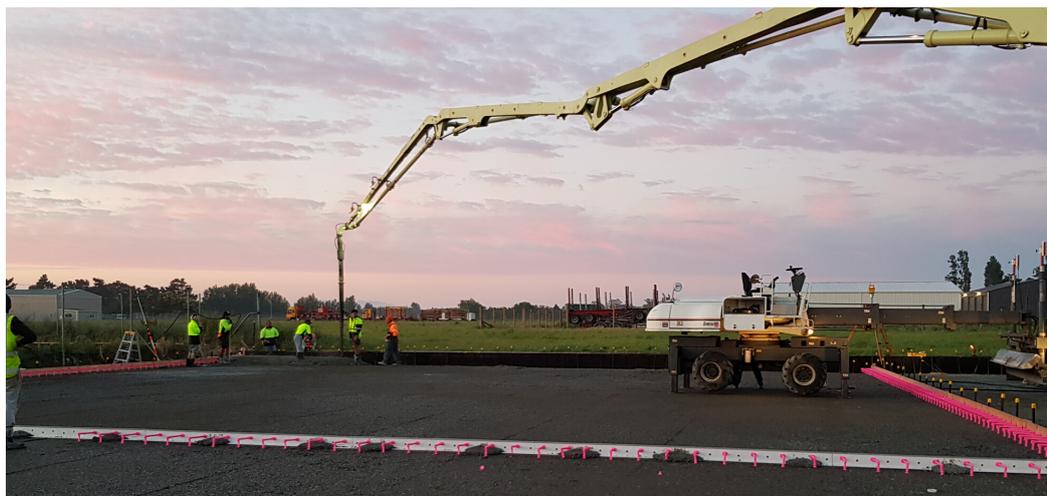
While things are changing and no doubt costs and economic casualties continue to rise for the business community, we are prepared to adapt and overcome. Because we are all in on this together, we can emerge collectively as a stronger, more united & resilient business community ready for the challenges ahead.

MCCARTHYS LOG YARD

When a prospective client needed to extract maximum project value on 15,000sqm of yard slab - INFORCE sat down to optimise the design.

Back in 2018, Inforce encountered a scenario we understood well. The client had an existing mesh slab design but wanted to ensure the current slab design was fully optimised to be as cost effective as possible, while providing high-level performance. The Inforce design team sat down with the client to determine what was required from the slab and redesigned it with performance and cost as the key drivers.

Over 15,000sqm of concrete slab was optimised giving an outcome that uncovered real-world savings for MRB Builders and McCarthys Transport.



The optimised design was to fully replace the steel mesh reinforcement with Steel Fibre Reinforcing (SFRC) to create a high strength concrete mix that would meet the demands of heavy axle loads and repetitive traffic movement. Removing the steel mesh meant the labour units saved on transporting, setting up, and placing of the mesh reinforcing was significant, realising large cost savings directly to the client.

Slab design factors:

High wear slab exposed to industrial business activity from log loaders & trucks, multiple examples of very high axle loads, high impact areas and heavy static loads.

iNFORCE Solution:

Remove the layer of steel mesh and replace with a FRC mix only. A high fibre concrete mix, creating a full matrix of reinforcement from slab top to bottom. Time and cost saved on slab construction, complexity and hassles of transport and placement of steel mesh. Full design service with construction drawings and onsite support was provided by the Inforce team.



IMPACT RESISTANCE - HOW FIBRE GIVES SLABS A TOUGHER SURFACE



Industrial vehicle movements put huge strain on slab surfaces

Industrial slabs are expected to deal with a huge range of load cases over their expected life.

While the full slab structure will be engineered to be strong enough for its application, it's the surface layer that really gets exposed to the wear and tear of industrial 'everyday' use.

One of the stresses on a slab is the constant impact on the surface. Inferior surface hardness will lead to gouges, cracks and edge spalling, and therefore must be factored in if a slab is to last the distance and remain not only fit for purpose, but also safe for staff and equipment to use.

Industrial activity yields not only very heavy axle/wheel loads, but is also unforgiving with repetitive action from hard wheels, metal rollers, buckets, tracks and dragging of materials and pallets across the surface day in day out. Dropping or inconsiderate placing of steel, timber and industrial items in the everyday workings of a business risks cracking, damaging and weakening of the surfaces further.

One way in which iNFORCE helps these slabs deal with impact resistance is through the introduction of synthetic micro fibres designed to improve the hardness of the surface and reduce plastic shrinkage cracking by up to 80%. Microforce® is one such example, and can be added into a mix with any other reinforcing including mesh or steel fibre reinforcement. The material binds and supports aggregates at the surface layer, leading to much improved longevity and performance of the surface. Talk to iNFORCE today for a sample of Microforce®, some more information and project examples where Microforce® has contributed to a better end result.

PRODUCT

FOCUS:

RADFORCE™

When the job calls for a structural fibre that totally enters a new realm of corrosive endurance - we recommend you look at our RADFORCE™ synthetic fibre.

Concrete and pavement projects in industrial or marine settings often have to withstand a barrage of different conditions, liquids, chemicals and harmful substances.

Whilst concrete itself can better withstand these corrosives, to a point - metal mesh reinforcing within it does not fare as well. This is where RADFORCE™ differs. By bringing all the reinforcing benefits of a macro fibre, but not the corrosion potential, you can be assured of a rust-free and high integrity performance for years to come.

We see high demand for RADFORCE™ for projects around marine, dairy effluents, chemical storage, natural corrosives and petrochemicals or fluids.

Contact iNFORCE for a free sample of RADFORCE™ fibre sent to you or phone us on **0800 463 672** for more details.



TALKING SEISMIC: FIBRE FOR A STRONGER FUTURE IN CONCRETE RAFT FOUNDATIONS



New Land classifications aim to reduce the impacts of seismic activity on future buildings in NZ

Seismic performance from concrete slabs has been a dominating topic in the post-Canterbury earthquakes world on kiwi construction. Engineers, developers and owners are all now familiar with the need and expectation for exceptional seismic performance in materials, designs and solutions.

However, to take new ideas to the market - they must be economical and give at least the same benefits as the incumbent offerings. As some owners are discovering, the new trend of raft (or floating or waffle) slabs can offer even wider benefits than first planned.

The learnings from out of Canterbury have spawned the development and subsequent popularity of the raft slab as a new solution to the problem of marginal soils and land classifications the render ordinary slabs as too risky.

A raft slab or raft foundation is one way in which potential liquefaction in soils can have a lesser impact on the final structural integrity of a house of building. By having an internal grid-like footing structure, and being deeper and stronger, the raft slab is designed to spread the bearing much wider and in effect 'float' on the substrate. This in turn means substrates can be of less bearing strength and quality, and exhibit more movement, before the slab fails.

Raft slabs often incorporate poly insulation built into the slab volume, which in turn can lead to higher R-values for the floor itself. We even now see fully insulated raft slabs from firms focused on high performing buildings, which contribute to warmer and healthier environments.

Combined with clever use of steel fibre reinforcing, the raft slab is now becoming an accepted and economical solution to construction on TC2 or TC3 land - and in some cases, a preventative measure on TC1 land.

BECA ENGINEERING PRESENTATION

Back in February of this year, Willem, Austen and James headed north to deliver our 'Uncovering Fibre' presentation to the team at BECA in Auckland.

Armed with a suite of digital material, print material and a generous spread for lunch - we were happily received by BECA and delivered an informative hour-long session complete with plenty of real-world examples and case studies of fibre projects, which got the BECA team really thinking about how they could apply FRC to their own projects.

To arrange your own personalised team presentation from iNFORCE, contact Finn today: **0800 463 672**

TALKING SEISMIC: CONTINUED

iNFORCE is proud to supply our steel cold-drawn fibre to a range of raft-slab manufacturers throughout New Zealand, with many more inquiring as this slab technology become more mainstream. iNFORCE is at the ready to provide you with more information regarding fibre raft slabs and is happy to discuss projects where our fibre has contributed to excellent end results for our customers.

UP, UP AND AWAY - iNFORCE SUPPORTING HELI RESCUE TRUST

With one of our founding principles being the support of community causes, iNFORCE was proud to donate to the Canterbury West Coast Air Rescue Trust late in 2019.

Being a critical service for the West Coast, we are proud that our \$5000 donation will be a small contribution to help the trust continue to save lives. Inforce donates a minimum of 20% of its profits to various charities and to support regional development.



**BUSINESS
SUPPORT CREW**



Willem & Austen deliver our 'Uncovering Fibre' presentation to BECA in Auckland

NEXT ISSUE:

- Thomas Brothers coolstore
- Discussing fibre shapes
- Beam testing followup
- Inforce Webinar Series
- Product Focus: ProForce®

iNFORCE

SIMPLIFY WITH CONFIDENCE.