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The Oft-overlooked Virtues of Precast Concrete

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Precast concrete confers a range of benefits in addition to those conventionally touted within the building industry.

★ Many members of the Australian building sector continue to overlook the broad array of benefits conferred by precast concrete solutions despite long-standing use of the construction method both at home and abroad.

While those involved with the construction industry are no doubt well aware of the demonstrable time and cost advantages provided by pre-cast concrete, [Sarah Bachmann](#), CEO at National Precast Concrete Association



Contributor:
Marc Howe

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Australia, notes that the building method confers other benefits that are not so widely acknowledged.

Chief among them are the time and related cost savings associated with the enhanced safety of building sites where precast concrete solutions are deployed.

"While it's well known that you end up with safer sites when using pre-cast concrete, this also has economic implications which aren't being efficiently factored into the costing process at the front end," said Bachmann.

"Anyone who's seen a building site knows what kind of chaos it generally involves. Imagine if you take away all the deliveries of raw material to a building site, and instead have all the key elements produced in a factory environment where safety is controlled.

She noted that the delivery of completed elements to a work sit offers benefits beyond simple time and cost.

"You have big advantages in terms of safety because you've got less men on site, less bits and pieces being delivered, less clutter and less waste to remove," she said. "A safer site means less downtime from accidents and other contingencies, which translates into economic benefits for a building project."



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According to Bachmann, the heightened safety of pre-cast **construction** sites should eventually translate into reduced insurance premiums for builders.

“If you’re building on a site which is a whole lot cleaner and far less cluttered, with less waste, absolutely it should be a lower risk proposition for an insurer,” she said. “If insurers aren’t already doing so they should be factoring that in.”

Other benefits of employing pre-cast concrete solutions arise from the inherent material advantages of the material. These include longevity and low maintenance needs, as well as thermal mass advantages.

“Obviously **concrete** structures have been around since Roman times, so it’s an incredibly long-lasting product that has stood the test of centuries,” said Bachmann. “There are still some very old pre-cast structures that remain in existence until the present day.

“The first use of pre-cast concrete extends back to 1875 for housing in the UK, while the first document use of pre-cast concrete here in Australia was in 1904, for the Bradleys Head Lighthouse.”

These durability and maintenance advantages are being further enhanced



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in the modern-era by technological advances.

“You see a lot of public buildings now using polished pre-cast that has a near reflective finish and is virtually self-cleaning,” said Bachmann. Then you’ve got newer technologies like photocatalytic coatings that even improve the air quality around buildings by decomposing smog.”

Another frequently overlooked advantage of pre-cast concrete is the expanded range of design possibilities it creates due to its structural versatility.

"Precast concrete can be used to form any shape, while any pattern or colour can be reproduced or created on its surface," Bachmann said.

Bachmann notes that architects here in Australia are already exploiting the enhanced design possibilities provided by pre-cast concrete.

“The Melbourne Recital Centre is one example of the amazing patterns and shapes that can be achieved using pre-cast concrete,” she said. “That project used precast concrete reinforced by glass fibres instead of traditional mesh.

“The University of Sydney’s Jane Foss Russell Building is another example of something truly spectacular that can be





Melbourne Recital Centre

achieved using pre-cast concrete.

“That was part of Sydney’s Building for the Future program, and involved the use of curved precast panels in polished white concrete for the creation of a seven-storey student accommodation building.”



Jane Foss Russell building

Despite these many advantages Bachmann notes that certain members of the building sector remain reluctant to adopt the technology.

"Builders tend to be entrenched in traditional construction methods - particularly in smaller and medium-sized companies. I guess that’s just part

of people's resistance to change and doing things in a way that has worked for many many years, and being nervous about trying different methods," she said.

Bachmann nonetheless points out that the bigger players in the building sector are taking the lead in the more innovative adoption of precast concrete solutions.

"Certainly at the top end of town it's happening, larger companies such as Laing O'Rourke are overcoming that initial reluctance," she noted.

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CONTRIBUTED BY:



Marc Howe

Marc Howe is one of Sourceable's lead writers on technology and business issues in relation to Australia's built environment.

He has accumulated extensive experience as an editor and reporter both in Australia and abroad, and has covered a broad range of topics during his press career...

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David Chandler says:

July 16, 2015

I am a big fan of Precast in Australia. It has a bright future. But who picked the photo for this article? When you are making the case for safer work on site the workers here have no safety hats, few have safety gloves and safety vests. This is not a good look! Almost as bad a look as Bronwyn Bishop flying around in a \$5000 tax payer funded helicopter. Workcover could issue fines in this instance based on the safety breaches identified in this article. There is a challenge? And will Joe Hockey make Bronwyn Bishop pay the money back. Both are very bad looks.



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