



## Applications & Innovations

April 2017

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## Applications

### Staying cool with precast

Precast concrete has become the solution to safely and efficiently capture hydrofluoric acid. With many unique characteristics, the precast containment structures are playing a role in keeping drivers cool.

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### Pinot gris out of a concrete barrel—wine not?

An Oregon (US) winemaker has manufactured a precast concrete barrel that holds up to 1900 litres of wine and weighs approximately 2.7 tonne.

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### Are these giant concrete domes the solution to eroding shorelines?

Concrete 'reef balls' were deployed in Connecticut (US) to help slow erosion by reducing the impact of waves. As a test, rows of the heavy domes, each about 90cm wide, have been installed just offshore.

[Read more](#)



### The latest on geopolymer concrete: join Austroads webinar on 1st May

Austroads has recently completed a four year research project on the use of geopolymer concrete in structural and nonstructural applications. Join the webinar at 12noon AEST on Tuesday 1<sup>st</sup> May.

[Read more](#)

### Oils ain't oils

A range of low volatile organic compound (VOC) products have hit the Australian market and are challenging the common perception that all chemicals comprise hazardous substances. Several are used in the precast concrete space.

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## 2018's award-winning sustainability applications

The NPCA's (US) Sustainability Awards recognise excellence in sustainable products, practices and operations among its members, highlighting the precast concrete industry's continuing commitment to sustainability.

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## Innovations

### Ultra-high-performance concrete

Researchers have created a unique ultrahigh-performance concrete. Produced from local and recycled resources, the material has the same compressive strength but is approximately half the price of the alternatives currently existing in the market.

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### Rain, rain snow, snow go away with electric concrete

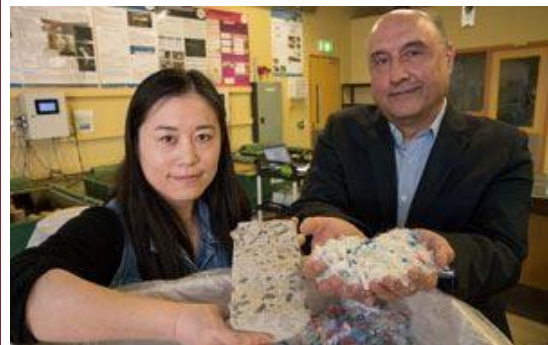
Concrete slabs, which can be controlled by a smartphone, have been installed in Iowa (US) to melt snow and ice. They are formed of two layers—the bottom layer is 100mm of regular concrete and the top layer is 890mm made from the conductive material.

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### Plastic dialysis waste to produce durable concrete

Dialysis patients could inadvertently improve sustainability in the construction industry, thanks to an innovative Deakin University recycling project in Victoria that is turning hospital waste into longer-lasting concrete.

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#### Adding a different type of ash to the mix

Researchers from MIT (US) have found that pulverising volcanic ash and adding it to the concrete mix can make the process more environmentally friendly and result in stronger structures.

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#### 3D-printing brings products to life

Researchers have successfully used cement and geopolymer separately as binders in 3D printing machines. The advent of 3D-printer technology has opened up larger scale opportunities for the infrastructure sector.

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#### The latest and greatest products in concrete construction

From efficient forming systems for concrete footings and foundations, to concrete production and delivery equipment, here are 2018's most innovative product nominees.

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