

For more information contact:

Graham Wright

07 3854 6795

GrWright@pb.com.au

14 November 2011

Industry collaboration sets a benchmark for the future use of “green” concrete

The Concrete Institute of Australia, with the assistance of the Geopolymer Alliance, recently published a recommended practice document on geopolymer concrete that is an alternative to Ordinary Portland Cement (OPC) concrete.

Co-authored by Parsons Brinckerhoff Geotechnical Technical Executive Mark Drechsler, the document looks at the innovative cement binder which uses different chemistry to traditional OPC binders to make concrete.

Cement production is one of the world’s largest generators of greenhouse gases (5-8% GHG) and alternatives to OPC concrete products can significantly reduce carbon dioxide emissions generated during the construction of expanding global infrastructure needs.

Concrete Institute of Australia CEO Graeme Burns said that when the Institute conducted international research into recommended and best practice use of geopolymer concrete, there simply wasn’t anything available.

“After completing our research, we recognised there was a gap in documented standards for the use of geopolymer concrete.

“We commissioned a project to develop these standards and believe we have a world’s first in this area,” said Mr Burns.

In 2008, the Concrete Institute of Australia formed a focus group to write the recommended practice document. The group consisted of Australia’s experts in geopolymer concrete research and development, cement and concrete industry representatives and was chaired by Dr Terry Gourley of the Geopolymer Alliance.

Mr Drechsler, who worked with other focus group members on this document for more than three years, said that one of the benefits of this new concrete is the use of industrial waste materials such as fly ash and slags.

“The geopolymer concrete has many properties such as early high strength, low shrinkage and low heat of hydration, all of which have many potential benefits for the precast concrete products industry.

“With the recently approved carbon tax in Australia, the additional benefits of up to 80% reduction in carbon emissions from using these geopolymer concrete products will provide even more incentive for the construction industry to switch to “green” concrete alternatives,” said Mr Drechsler.

With geopolymer based concrete now available in Australia, the recommended practice document was produced to help end users, designers and decision makers consider the benefits of using geopolymer concrete compared to traditional concrete.

Geopolymer cement is made by activating amorphous alumino-silicate materials, such as fly ash and slag, with alkali-based chemicals such as sodium hydroxide and sodium silicate. The geopolymer cement is then used as a binder for sand and aggregates to produce geopolymer concrete products.

Media release

Copies of the publication are available from SAI Global or the Concrete Institute of Australia websites.

About Parsons Brinckerhoff

Parsons Brinckerhoff is one of the world's leading planning, environment and infrastructure consultancies, with over 14,000 staff based in offices across six continents. In Australia and New Zealand, Parsons Brinckerhoff's multidisciplinary team of over 2,500 professionals offers a comprehensive range of multidisciplinary services and total project delivery on projects of any scale. Parsons Brinckerhoff is part of Balfour Beatty plc, the international infrastructure group operating in professional services, construction services, support services and infrastructure investments. See www.pbworld.com