
LATROBE MAGNESIUM CEMENTITIOUS MATERIAL CONTINUES TO OUTPERFORM FLY ASH

15 October 2015, Sydney Australia: Latrobe Magnesium Limited (ASX:LMG) announces the results of further cementitious test results that showed LMG's material continues to outperform fly ash. It also may have additional applications in the ultrafine fly ash market where product sells for over \$200 per tonne.

There is a major shortage of fly ash in Victoria. Victorian users import up to 300,000 tonnes per annum from New South Wales and Queensland and some suppliers are contemplating importing fly ash from overseas.

The cementitious testing was conducted by BG&E at the TSE Laboratory in Sydney and also at Cement Australia's Laboratory in Brisbane.

TSE conducted shotcrete mortar tests with a control cement, cement incorporating 30% of a fly ash, the cementitious material produced in China and three other residues including, a SR6 sample, for setting times and compressive strength over 24 hours. The SR6 sample is representative of what LMG expects to produce in a commercial plant. TSE found that the strength of material using the LMG residues were significantly higher than those using fly ash but some 23% down on the cement control mix. These tests showed better initial set times for the SR6 residue mix over cement by 19% and better final set times of 8%. TSE conducted these tests on shotcrete because it is a high value product.

TSE conducted concrete tests on a concrete mix, and two other mixes with 30% substitution with fly ash and the China sample. While the initial set times and strengths of the China sample were somewhat slower than the fly ash and the cement mixes in the early stages it progressively caught up to both over the 3, 7, 14, 28 and 56 day tests.

LMG believes the slower initial set times were due to problems with the China sample. The slower set times were not evident in the above mentioned mortar tests.

Cement Australia conducted concrete tests on a concrete mix and three other mixes with 20% substitution with two SR6 samples and the China sample. Cement Australia found the relative strength performance close to that of the cement mix with strengths at both 7 and 28 days being 0.9 of the reference cement.

Cement Australia also found the LMG residue performance is slightly better than a number of the fly ashes currently available in the New South Wales market.

David Paterson said, “the importance of fineness of the residue was noted in these trials and we would expect better performance out of our cementitious material with finer grinding.”

While the market size for fine material in Australia and New Zealand is small, the price is in excess of \$200 per tonne depending upon the material’s properties.



David Paterson
Chief Executive Officer

About Latrobe Magnesium

Latrobe Magnesium is developing a magnesium production plant in Victoria's Latrobe Valley using its world-first patented extraction process. LMG intends to extract and sell magnesium metal and cementitious material from industrial fly ash, which is currently a waste stream from brown coal power generation.

LMG has completed a pre-feasibility and an adjustment study validating its combined hydromet / thermal reduction process that extracts the metal. Production from its initial 5,000 tonne per annum magnesium plant is due to start in the middle of 2017. The plant will be in the heart of Victoria’s coal power generation precinct, providing immediate access to feedstock.

LMG plans to sell the refined magnesium under long-term contracts to Australian and overseas users. Currently, Australia imports 100% of the 10,000 tonnes annually consumed.

Magnesium has the best strength-to-weight ratio of all common structural metals and is increasingly used in the manufacture of car parts, laptop computers, mobile phones and power tools.

The LMG project is at the forefront of environmental benefit – by recycling power plant waste, avoiding landfill and is a low CO² emitter.