

## Cadia East Mine

### Roadway Panel Grouting



Bulk bag loading into auger hopper for transfer into concrete agitator

**Project:**

Roadway panel grouting

**Location:**

Cadia East Mine

**Owner/s:**

Newcrest

**Applicator / Contractor:**

Boral Concrete

**Products used:**

MasterRoc MG 100

**Contact:**

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**The Background:**

Newcrest Mining Limited's Cadia Valley Operation is located 25 kilometres south-west of Orange, in central western New South Wales. Recently, the Cadia East mine placed 130MPa precast concrete panels as roadway in the underground mine. The panels were set into place over 50MPa sub-base concrete and were required to be grouted in. Initially, the grout was being supplied by Boral Cadia batch plant and it consisted of cement, water and MasterRoc HCA 20. There was concern, after movement from some of the initial panels, that there was too much shrinkage with the grout.

**The Challenge:**

After discussions with Newcrest and Boral, it was determined that a new, non-shrink grout was required for the job. Due to the size of the grouting operation, it was preferred that it still be batched into 4m<sup>3</sup> concrete agitator. Master Builders Solutions and Boral had two weeks to develop a suitable grout mix.

**Our Solution:**

Master Builders Solutions proposed using the MasterRoc MG100 grout additive. Widely used in cable bolt grout mixes for tunnel projects, it would provide the flow, stability and non-shrink qualities required. MasterRoc MG 100 usually comes in 15kg bags, meaning the 4m<sup>3</sup> load would require 680kgs of product in 45 individual bags.



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To reduce the handling of so much product, Boral requested we produce the product in bulk bags. A rapid and timely response enabled the production team to procure the raw materials and produce the initial 6.8T of MasterRoc MG 100 in 680kg bulk bags within the two week period. The initial bulk bag was trialed during night shift with Master Builders Solutions expert on site to supervise. After some determination of mixing time the grout looked homogeneous and flowable with no sign of segregation. It was reported from underground that the grout pumped and flowed extremely well and continues to do so.

#### The Customer's Benefit:

- The Roadway panel grouting started in 2014 and will continue until mid 2016.
- 3L/m<sup>3</sup> of MasterRoc HCA 20 is also added into the grout mix to keep the grout fresh for up to 3 hours.

#### Project Facts at a Glance

- For Boral, we were able to continue to supply a grout mix to the mine for this ongoing project. It also greatly reduced manual handling of the grout additive.
- For Newcrest, it provided a non-shrink grout solution in a bulk quantity and greatly reduced the manual handling typical of a pre-bagged grout product.

#### Master Builders Solutions

Master Builders Solutions is a leading global manufacturer of concrete admixtures, as well as other sustainable solutions for the construction industry, focused on delivering its vision: Inspiring people to build better. Master Builders Solutions provides value-added technology and market-leading R&D capabilities to improve the performance of construction materials and to enable the reduction of CO<sub>2</sub> emissions in the production of concrete. Founded in 1909, Master Builders Solutions has more than 1,600 employees and 35 production sites globally with over 150 employees and 6 production sites operating across Australia and New Zealand. Master Builders Solutions supports its customers in mastering their building challenges of today – for a decarbonised future.

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