

# Road Pozz

## PRODUCT DATA SHEET

BORAL

**Road Pozz** is a specialised binder produced for stabilisation applications. It is manufactured from Shrinkage Limited (SL) portland cement and flyash, as a nominal blend of 75:25.

### USES

**Road Pozz** is manufactured for the stabilisation of road base, sub-base and sub-grade materials and may be used in soils with either low or moderate plasticity.

**Road Pozz** is suitable for applications such as in situ (including deep lift) stabilisation or pugmill blending. The mixing of pavement materials should be carried out using purpose built stabilising equipment.

Addition rates of up to 6% by weight of suitable untreated materials can be expected.

**Caution: As Road Pozz is manufactured for stabilisation applications its use in other forms of construction should be referred to the manufacturer.**

### COMPATIBILITY

**Road Pozz** should not be blended with other cements.

### SOIL PROPERTIES

It is essential that appropriate testing is carried out on all materials prior to using **Road Pozz**.

Road Pozz is more suited to materials of a granular nature with a lower Plastic Index (PI).

### STRENGTH

The strength of **Road Pozz** measured as an Unconfined Compressive Strength (UCS) expressed in MegaPascals (MPa) is shown in the following graph. The materials tested were manufactured hard rock quarry products.

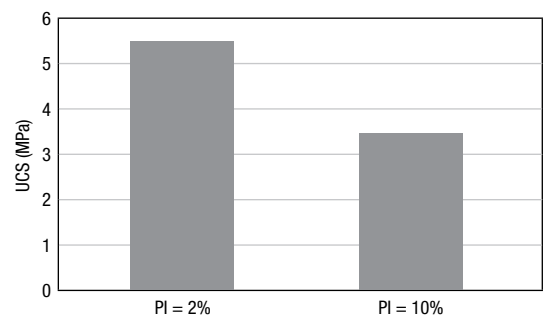
Two samples were chosen:

*Sample 1:* DGB 20 with a Maximum Dry Density (MDD) of 2.19t/m<sup>3</sup> moisture content of 8.9% and P1 of 2%.

*Sample 2:* Run of Crush (ROC) with an MDD of 2.06t/m<sup>3</sup> moisture content of 13% and P1 of 10%.

An additive rate of 4% **Road Pozz** was used.

#### Unconfined Compressive Strength



*Note: Test method used - RMS T131 7 Day Accelerated (AC) UCS. (Samples @ 1 hour after mixing binder)*



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### WORKABILITY

**Road Pozz** will generally exhibit shorter working times than those stabilisation additives which do not contain portland cement in their manufacture. **Road Pozz** however will often provide high early strengths in suitable materials.

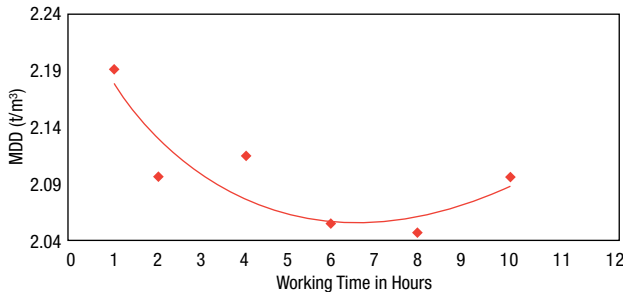
The Roads & Maritime Services (RMS) of New South Wales specifies working time for pavement materials in terms of effect on the maximum dry density (MDD) and unconfined compressive strength (UCS) expressed in MegaPascals (MPa). Generally a maximum working time of 12 hours is specified.

Working time is determined by the following:

- Density = 97% of 1 hour test results.
- Strength = 80% of 1 hour test results whichever is the lesser.

Set out below are two graphs showing working times for both parameters using the DGB 20 (Sample 1) material with 4% **Road Pozz** added.

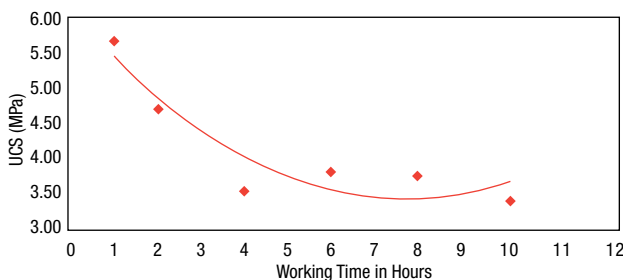
#### Maximum Dry Density: DGB20



MDD @ 1 hour = 2.19t/m<sup>3</sup>

- 97% of 1 hour result = 2.12t/m<sup>3</sup>
- Allowable working time = 2.5 hours (from the graph)

#### Unconfined Compressive Strength: DGB20

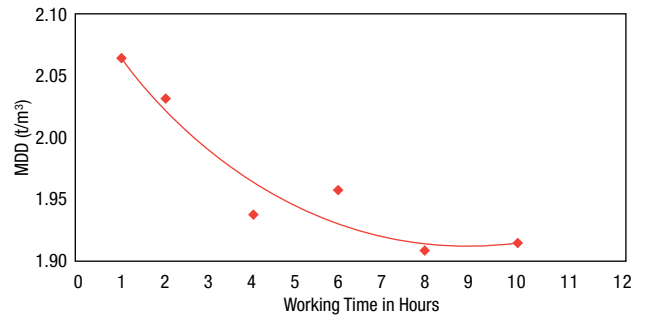


UCS @ 1 hour = 5.7 MPa

- 80% of 1 hour result = 4.5 MPa
- Allowable working time = 2.75 hours (from the graph)

The following graphs show working times for both parameters using the ROC (Sample 2) material with 4% **Road Pozz** added.

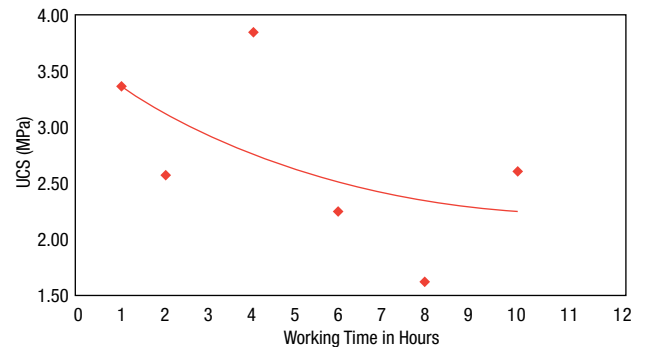
#### Maximum Dry Density: ROC



MDD @ 1 hour = 2.07t/m<sup>3</sup>

- 97% of 1 hour result = 2.00t/m<sup>3</sup>
- Allowable working time = 2.75 hours (from the graph)

#### Unconfined Compressive Strength



UCS @ 1 hour = 3.30 MPa

- 80% of 1 hour result = 2.70 MPa
- Allowable working time = 4.75 hours (from the graph)

## REWORKABILITY

The reworkability of materials is affected by the soil type and the binder chosen. **Road Pozz** has a reduced reworkability when compared to binders which do not use Portland Cements in their manufacture.

However, materials treated with **Road Pozz** may still have the potential to be reworked depending on suitable test results.

Therefore, problems such as leveling errors, rutting or other damage caused by either weather conditions or traffic can often be rectified by reworking the material with or without additional binder being required.

Two samples were chosen.

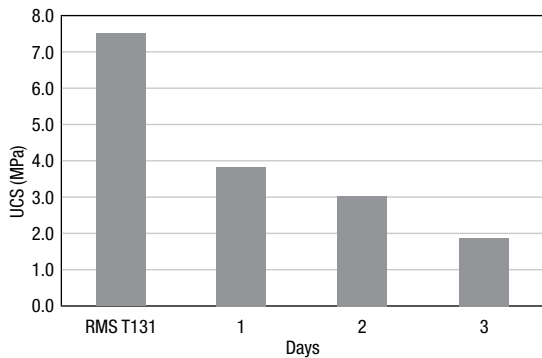
*Sample 1:* DGB20 with an MDD of 2.37t/m<sup>3</sup>, moisture content 8.2% and P1 = 0%.

*Sample 2:* ROC with an MDD of 2.25t/m<sup>3</sup> moisture content 9.97% and P1 = 9%.

The following graphs show the effect on the unconfined compressive strength after reworking both samples over a three day period. An addition rate of 4% **Road Pozz** was used.

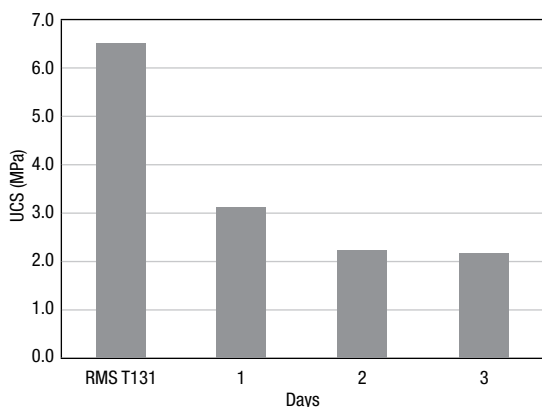
*Sample 1: DGB20*

### Unconfined Compressive Strength



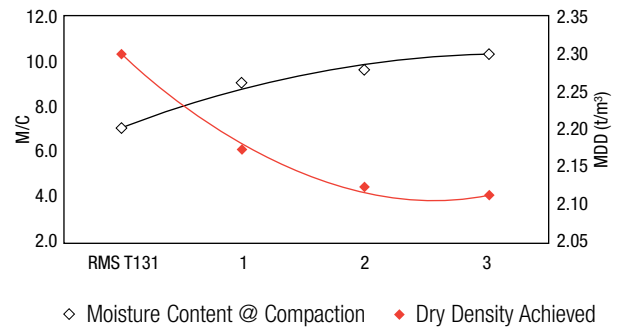
*Sample 2: ROC*

### Unconfined Compressive Strength

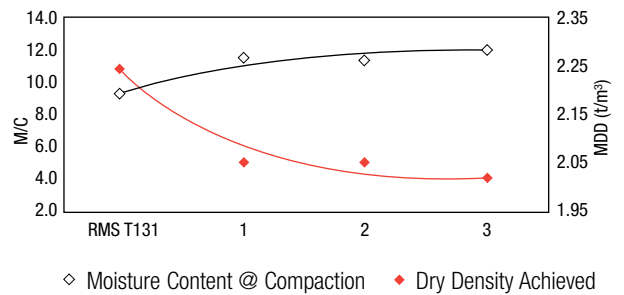


The following graphs show the effect of reworkability on the MDD and moisture contents (M/C) of both samples.

*Sample 1: DGB20*



*Sample 2: ROC*



### Test Method (Reworkability)

Four pairs of UCS cylinders were cast.

- One pair of cylinders were moulded and cured for 7 days at 65°C and tested (4 hr soak).
- One pair of cylinders were damp cured at 23°C for 24 hours broken down, remoulded and cured for 7 days at 65°C then tested (4 hr soak).
- One pair of cylinders were damp cured at 23°C for 48 hours broken down, remoulded and cured for 7 days at 65°C then tested (4 hr soak).
- One pair of cylinders were damp cured at 23°C for 72 hours broken down, remoulded and cured for 7 days at 65°C then tested (4 hr soak).

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### STORAGE

Contact with air and moisture will cause hydration of the cementitious properties of this product. The “shelf life” of **Road Pozz** is therefore dependent on storage conditions. It is recommended that **Road Pozz** should be tested before use if the age of the product exceeds 3 months.

### HANDLING

For further safety information consult the Boral Cement Material Safety Data Sheet for the product, available on our website [www.boral.com.au](http://www.boral.com.au)

The information in this Data Sheet and any advice given should be viewed as a guide only. Boral makes no guarantee of the accuracy or completeness of the information and recommends you conduct your own testing to determine suitability for your specific purpose.

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