

Test Method

Preparation of Cement Stabilised Materials to establish the Dry Density - RC 301.06 Moisture Content Relationship

1. Scope

This method describes the processes used for preparing materials stabilised in the field and sampled prior to compaction or materials stabilised in the laboratory to establish a dry density - moisture content relationship.

2. Apparatus

As for AS 1289.5.1.1 or 5.2.1, as appropriate.

3. Sample Preparation

As for AS 1289.5.1.1 or 5.2.1, as appropriate.

4. Procedure

As for AS 1289.5.1.1 or 5.2.1, as appropriate, with the addition of the following:

4.1. For materials sampled in the field prior to compaction.

Laboratory compaction shall be carried out between 2 and 3 hours after completion of mixing of cement with the material on the roadbed.

4.2. For materials stabilised in Laboratory

As for AS 1289.5.1.1 or 5.2.1, as appropriate, with the addition of the following:

- (a) Obtain a sample of cement (see Notes)
- (b) Determine the mass of each sample portion
- (c) Calculate the required amount of cement additive on a percentage by dry mass basis for each portion.
- (d) Weigh out the required amount of cement additive
- (e) Spread the material to be stabilised over the base of a container.
- (f) Spread the cement to be added over the surface of the material. To aid mixing, a small quantity of water equal to about half the mass of cement should be added. An allowance for this should be made in the moisture aim.
- (g) Add the water as a spray and mix the material thoroughly.

- (h) Laboratory compaction shall be carried out between 2 to 3 hours after mixing of cement with the material in the laboratory when using General Purpose Cement.

Compact specimens in accordance with the appropriate Test Method to obtain the moisture content-dry density curve.

5. Calculations

Calculate according to AS 1289.5.1.1 or 5.2.1, as appropriate.

6. Reporting

Report as stated in AS 1289.5.1.1 or 5.2.1, as appropriate.

For materials stabilised in the field, the time of compaction after mixing.

For materials stabilised in the laboratory, the amount of cement added in percent to the nearest 0.1, the source and type of cement used, and the date cement was sampled.

Notes

Cement used in laboratory investigations should be the same type and from the same source of supply or manufacturer as the cement proposed for field use.

Unless otherwise specified or approved, the cement should be Type GP - General Purpose Cement complying with the requirements of AS 3972 - *General purpose and blended cement*.

When blended cements are specified or approved for use they shall be Type GB - Blended Cement complying with the requirements of AS 3972 - *General purpose and blended cement*.

Cement shall be stored in sealed containers and protected from moisture until used. Cement to be used for laboratory investigations should not be stored for a period longer than three months.

Test Method - Revision Summary RC 301.06 Preparation of Cement Stabilised Materials

Date	Clause Number	Description of Revision	Authorised by
November 2012	Full document	Re-styled with minor corrections made	Principal Advisor - Pavements & Materials