

METHOD A9

THE DETERMINATION OF THE CALIFORNIA BEARING RATIO OF LIME-STABILIZED SOILS AND GRAVELS

1 SCOPE

This method describes the determination of the CBR (according to Method A8) of lime stabilized soils and gravels and is also applied to obtain the lime content required to satisfy a specified CBR.

2 APPARATUS

Same as Method A8.

3 METHOD

3.1 As for Method A8 with the following additions:

3.1.1 Three or more different lime contents at which the California Bearing Ratio (CBR) is to be determined, are selected. These are usually in increments of two percentage points, e.g. two, four and six per cent by mass of the total oven-dry raw material (two per cent means two parts of lime to 100 parts oven-dry raw material. The calculated amount of lime is admixed to the raw material after the material has been prepared and quartered as described in Section 3.1 of Method A8 (see 5.1). The different quantities of lime are added and the material brought to optimum moisture content. The material is left covered under wet hessian bags for four hours plus-minus 15 minutes after the water and lime have been mixed in prior to the compaction (see 5.2). The compaction must be completed before six hours after the addition of the water.

3.1.2 After compaction as described in Section 3.5 of Method A8 (and before soaking), the moulded specimens are damp-cured for seven days. This can be achieved by keeping them under wet jute bags or in a moisture room if available at a temperature of 22 - 28 EC. After curing, the specimens are soaked and penetrated in exactly the same manner as described in Sections 3.6 to 3.8 in Method A8 (see 5.2 and 5.3).

4 CALCULATIONS

As for Method A8.

5 NOTES

5.1 Unslaked or partially slaked lime has to be slaked before being used by mixing it with 1/3 of its mass in water in a suitable container and leaving overnight.

5.2 The test is carried out at optimum moisture content (+ 0,3 %) of the stabilized mix. This means that the optimum moisture content has to be determined in accordance with Method A7, except that the required quantity of lime is added. The lime is added separately to each portion quartered for the moisture-density test.

5.3 After penetration, the sample extruded from the mould is normally used for the determination of the Atterberg constants.