Australian Standard™

AS 1289.6.9.1

Methods of testing soils for engineering purposes

Method 6.9.1: Soil strength and consolidation test—Determination of stiffness of soil—Clegg impact value (CIV)

1 SCOPE

This Standard sets out a method for determining the stiffness of soil in the field, in terms of the Clegg impact value (CIV), based on the deceleration of a free-falling mass.

2 APPLICATION

The test method is suitable for evaluating the stiffness of an unsaturated compacted fill, in particular pavement materials, soils and soil-aggregates having particle sizes less than 37.5 mm.

CIV is one of the properties used to evaluate the stiffness of a layer of soil up to about 150 mm in thickness and, by inference, to indicate the compaction condition of this layer.

This test method provides immediate results in terms of CIV and may be used for the process control of pavement or earth fill activities, where the avoidance of delays is important and where there is a need to assess variability when statistically based quality assurance procedures are being used.

This test method does not provide results directly as a percentage of compaction but rather as a stiffness index value from which compaction may be inferred for the particular moisture conditions.

This method may be used to monitor strength changes during a compaction process or over time due to seasonal, environmental or traffic changes.

NOTE: The equipment and procedures contained in this test method are similar to those developed by B. Clegg at the University of Western Australia. PAPER: CLEGG, B., 1976, An impact testing device for in-situ base course evaluation. Proc 8th ARRB Conf 8 (8), pp 1-6, Perth, Australia. (6 pages)

3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
1289	Methods of testing soils for engineering purposes
1289.5.2.1	Method 5.2.1: Soil compaction and density tests—Determination of the dry density/moisture content relation of a soil using modified compaction effort