

STANDARDS AUSTRALIA

RECONFIRMATION

OF

AS 1289.1.2.1—1998

Methods of testing soils for engineering purposes

Method 1.2.1: Sampling and preparation of soils—Disturbed samples—Standard
method

RECONFIRMATION NOTICE

Technical Committee CE-009 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 13 June 2013.

The following are represented on Technical Committee CE-009:

Association of Geotechnical Testing Authorities (Qld)
Australian Building Codes Board
Australian Chamber of Commerce and Industry
Australian Geomechanics Society
Australian Stabilisation Industry Association
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Cement Concrete & Aggregates Australia—Aggregates
Engineering & Construction Laboratories Association
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National Association of Testing Authorities Australia
The University of Melbourne
The University of Sydney
Victorian Construction Materials Laboratories Association

NOTES

Australian Standard®

Methods of testing soils for engineering purposes

Method 1.2.1: Sampling and preparation of soils — Disturbed samples — Standard method

1 SCOPE This Standard outlines considerations and specifies procedures for taking disturbed samples of soils for engineering purposes such as earthworks and pavements, subdividing the samples and details for packing and forwarding them for examination and testing. In order to obtain appropriate representative samples, sampling is to be carried out by operators properly trained in the procedures and considerations given in this Standard and in general sampling techniques.

The Standard does not cover undisturbed sampling of soils or sampling soils for tests for environmental purposes.

Disturbed soil samples may be suitable for visual identification and for classification, chemical, density tests and strength tests on remoulded specimens.

The selection of sites from where samples are to be taken is not covered by this Standard. Random selection of sampling sites, when required, is covered by AS 1289.1.4.1 or 1.4.2.

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS

- | | |
|------------|---|
| 1141 | Methods for sampling and testing aggregates |
| 1141.3.1 | Method 3.1: Sampling — Aggregates |
| 1141.3.2 | Method 3.2: Sampling — Rock spalls, boulders and drill core |
| 1289 | Methods of testing soils for engineering purposes |
| 1289.1 | Method 1: Preparation of disturbed soil samples for testing |
| 1289.1.4.1 | Method 1.4.1: Sampling and preparation of soils — Selection of sampling or test sites — Random number method |
| 1289.1.4.2 | Method 1.4.2: Sampling and preparation of soils — Selection of sampling or test sites — Stratified random number method |
| 1289.5.4.1 | Method 5.4.1: Soil compaction and density tests — Compaction control test — Dry density ratio, moisture variation and moisture ratio |
| 1289.5.7.1 | Method 5.7.1: Soil compaction and density tests — Compaction control test — Hilf density ratio and Hilf moisture variation (rapid method) |
| 1289.6.3.1 | Method 6.3.1: Soil strength and consolidation tests — Determination of the penetration resistance of a soil — Standard penetration method (SPT) |

3 DEFINITIONS For the purpose of this Standard the definitions below apply.

3.1 Sample — the material to be forwarded for examination or testing.

3.2 Sample-increment — the amount of material taken directly from the conveyor, bin, truck, section of a stockpile or from material taken after quartering the soil from each layer or type of material present.

3.3 Stockpile — a heap or stack of material held in stock for future use.

4 APPARATUS The following apparatus is required:

- (a) Sampling containers which prevent loss of fines and, if required, which can be sealed to prevent moisture loss.
- (b) Durable labels, indelible marking pens and the like.
- (c) Shovel or appropriate scoop.
- (d) The following apparatus may be required depending on the procedure used and whether samples are divided and weighed in the field:
 - (i) Balance or scale to determine the mass of samples (see Notes 1 and 2).
 - (ii) Sample divider (riffle splitter) complying with the requirements of AS 1289.1.
 - (iii) Face sampling shield or board.
 - (iv) When sampling from stockpiles, windrows or channels, either a shovel or scoop, with sides at least 25 mm high to avoid loss of material from the sides.
 - (v) Appropriate mechanical plant.
 - (vi) Hand or power auger.
 - (vii) Pick or other excavating device.
 - (viii) Impermeable groundsheet.
 - (ix) Quartering cross.

5 CONSIDERATIONS

5.1 General considerations In sampling, the aim is to obtain samples of adequate size, number and distribution to represent the true nature and condition of the bulk of the deposit or source of material or defined portions of it. Sample quantities are determined by the particle size and the tests required (see AS 1289.1).

Samples shall only contain material which appears to be the one soil type or layer, unless it is intended that the total material being sampled is to be mixed to produce a relatively uniform product.

The end result of the sampling operation is a quantity of material upon which testing or examination is carried out. The sample may be obtained by combining a number of sample-increments.

When sampling from pits, trenches or exposed faces, operators shall be aware of the safety aspects of the site and relevant local and national safety regulations. In cases when it is unsafe to enter the site to take a sample, suitable mechanical methods may be adopted to ensure personal safety, or the sampling may need to be abandoned.

5.2 Specific considerations In planning sampling, the following shall be taken into account:

- (a) The type of material to be sampled.
- (b) The purpose for which the sample is being taken.
- (c) The tests to be performed on the sample and the quantity of material required.
- (d) The number of layers or strata of material present, the amount of material to be sampled from each layer or stratum, and whether or not each layer or stratum is to be sampled.
- (e) The accuracy to which depths of layers or strata are to be measured, e.g. to the nearest 10 mm for pavement layers or to the nearest 100 mm for bore holes.