

Australian Standard[®]

Methods of testing soils for engineering purposes

Method 7.1.2: Soil reactivity tests— Determination of the shrinkage index of a soil—Loaded shrinkage index

1 SCOPE This Standard sets out a method for the determination of the shrinkage index of a soil (see AS 2870) using a spring-loaded shrinkage cell.

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

AS

1289 Methods of testing soils for engineering purposes

1289.0 Part 0: General requirements and list of methods

1289.2.1.1 Method 2.1.1: Soil moisture content tests—Determination of the moisture content of a soil—Oven drying method (standard method)

1289.2.2.1 Method 2.2.1: Soil moisture content tests—Determination of the total suction of a soil—Standard method

2870 Residential slabs and footings—Construction

3 APPARATUS The following apparatus is required:

- (a) Thin-walled sampler consisting of a tube with a bevelled cutting edge machined directly on the sample tube. The bevelled cutting edge shall make an angle not exceeding 15° to the axis of the tube with a permitted land width at the cutting edge not exceeding 0.5 mm. The ratio of net projected area of sampler to projected area of sample core shall not exceed 10%, and any internal clearance shall not exceed 1% of the diameter at the cutting edge.
- (b) Drying oven complying with AS 1289.0.
- (c) Balance of 500 g capacity and limit of performance not exceeding ± 0.05 g.
- (d) Spatula or palette knife of convenient size.
- (e) Flat glass plate approximately 10 mm thick and at least 400 mm square.
- (f) Vacuum desiccator with stopcock to accommodate a vacuum pump.
- (g) Vacuum pump or similar system capable of achieving a minimum vacuum pressure of 600 mm Hg (80 kPa) (see Note 1).
- (h) Loaded shrinkage cell similar to that illustrated in Figure 1.
- (i) Vernier callipers to measure spring compression.
- (j) Comparator with a reference rod, similar to that illustrated in Figure 2, or other length-measuring system. The dial gauge shall be graduated at intervals not exceeding 0.005 mm.