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.