

Australian Standard[®]

Methods of testing soils for engineering purposes

Method 4.3.1: Soil chemical tests— Determination of the pH value of a soil— Electrometric method

1 SCOPE This Standard covers the electrometric determination of the pH value of a soil-suspension (see Notes 1 and 2).

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

AS

1152 Specification for test sieves

1289 Methods of testing soils for engineering purposes

1289.1 Method 1: Preparation of disturbed soil samples for testing

3 APPARATUS The following apparatus is required:

- (a) A pH meter covering the range pH 3.0 to pH 10.0 fitted with a glass electrode and a calomel reference electrode which may be incorporated in one probe (see Note 3) and a scale readable and accurate to 0.05 pH units. The manufacturer's instructions should be followed.
- (b) A balance of at least 100 g capacity with a limit of performance not greater than ± 0.005 g.
- (c) Three 100 mL glass beakers with cover glasses and stirring rods.
- (d) Two 500 mL volumetric flasks.
- (e) A wash-bottle, preferably plastic, containing deionized, or distilled water.
- (f) Sieve, 2.36 mm, complying with AS 1152.

4 REAGENTS The following reagents of recognized analytical reagent quality are required:

- (a) *Buffer solutions*—pH 4.0, pH 9.2 and other pH levels as required (see Note 4).
- (b) *Potassium chloride*—Saturated solution (for maintenance of calomel electrode).

5 PROCEDURE The tests shall be performed within the temperature range of 15-25°C and the procedure shall be as follows:

- (a) Obtain a sample which has been prepared in accordance with the procedure prescribed in AS 1289.1 for the preparation of disturbed samples for testing. Sieve this material on the 2.36 mm sieve. From the material passing the sieve obtain, by riffing or quartering, a sample of about 35 g.