

Australian Standard®

Methods of testing soils for engineering purposes

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

1 SCOPE This Standard sets out the method for laboratory determination of the moisture content of a soil as a percentage of its dry mass, using a standard oven.

This method is the standard or reference method. Where subsidiary methods are used, they may be correlated with this method by use of the procedure described in AS 1289.B3.1.

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

AS

1289	Methods of testing soils for engineering purposes.
1289.0	Method 0: General requirements and list of methods
1289.1	Method 1: Preparation of disturbed soil samples for testing
1289.B3.1	Method B3.1: Soil moisture content tests—Establishment of correlation between a subsidiary method of moisture content determination and the standard method (AS 1289.2.1.1)

3 APPARATUS The following apparatus is required:

- A drying oven complying with AS 1289.0.
- A heat-resistant and corrosion-resistant container of about the capacity shown in Table 1 (see Note 1).
- Suitable balance with minimum capacity and limit of performance as shown in Table 1 (see Note 2).

TABLE 1

BALANCE CAPACITY, LIMIT OF PERFORMANCE AND PRECISION OF MEASUREMENT

Soil size (see AS 1289.1)	Minimum balance capacity g	Limit of performance of balance not greater than g	Precision of mass determination g	Nominal capacity of container mL
Fine-grained	100	±0.05	0.01	50
Medium-grained	500	±0.5	0.1	200
Coarse-grained	5000	±5	1	1500

4 PROCEDURE The procedure shall be as follows:

- Prepare a suitable size representative subsample in accordance with AS 1289.1.
- Determine the mass of a clean and dry container (m_a). Place the subsample in the container. Determine the mass of the container with soil (m_b).
- Place the container with soil in the oven and dry at 105°C to 110°C to constant mass (see Notes 3, 4 and 5).
- Remove the container with soil from the oven.
- Determine the mass of the container with soil (m_c) while the container is still warm to touch (see Note 1).