

## Methods of testing rocks for engineering purposes

### Method 2.1.2: Rock porosity and density tests— Determination of rock porosity and dry density— Saturation and buoyancy techniques

#### 1 SCOPE

This Standard sets out the method for determining the porosity and dry density of rock samples in the form of lumps or aggregate of irregular geometry. It may also be applied to specimens of regular geometry.

The method is applicable only to rocks that do not appreciably swell or disintegrate when oven-dried or when immersed in water.

NOTE: Information on uncertainty of measurement is given in Appendix A.

#### 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
ISO/IEC 17025	General requirements for the competence of testing and calibration laboratories
ISO	
GUM	Guide to the expression of uncertainty in measurement

#### 3 APPARATUS

The following apparatus is required:

- (a) A drying oven complying with AS 1289.0.
- (b) A sample container of heat-resistant and non-corrodible material with lid.
- (c) Vacuum saturation equipment such that the sample can be immersed in water under a vacuum of not less than 800 Pa for a period of at least 1 h.
- (d) A balance of adequate capacity, with a limit of performance not exceeding  $\pm 0.1\%$  of the sample mass.
- (e) An immersion bath and a wire basket or perforated container, such that the sample immersed in water can be freely suspended from the stirrup of the balance to determine the saturated submerged mass. The basket shall be suspended from the balance by a fine wire so that only the wire intersects the water surface in the immersion bath.