

Australian Standard[®]

AS 1289.3.9.1:2015

Methods of testing soils for engineering purposes

Method 3.9.1: Soil classification tests— Determination of the cone liquid limit of a soil

1 SCOPE

This Standard sets out a method for the determination of the cone liquid limit of a soil using a cone penetrometer. The definition of liquid limit inherent in this method is not the same as that in the method using the Casagrande apparatus (AS 1289.3.1.1) although the values can be numerically similar.

NOTE: The potential difference in values between the standard method for liquid limit (AS 1289.3.1.1) and the cone liquid limit may be of great significance in testing materials for compliance with specifications. In such cases the two methods should not be regarded as interchangeable.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

1152	Test sieves
1289	Methods of testing soils for engineering purposes
1289.0	Part 0: General requirements and list of methods
1289.1.1	Method 1.1: Preparation of disturbed soil samples for testing
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)
1289.3.1.1	Method 3.1.1: Soil classification tests—Determination of the liquid limit of a soil—Four point Casagrande method

BS

2000	Bitumen and bitumen binders
2000-49	Part 49: Determination of needle penetration

3 APPARATUS

The following apparatus is required:

- (a) An appropriately sized container, with close fitting cover, made from a non-absorbent material.
- (b) An appropriately sized flat plate approximately 10 mm thick made from non-absorbent material.
- (c) Appropriately sized palette knives.
- (d) A manual or automatic release penetrometer generally complying with BS 2000-49, with the exception of the total mass of the needle and shaft [see Step (e)], and generally as illustrated in Figure 1.