

Australian Standard®

Methods of testing soils for engineering purposes

Method 3.3.1: Soil classification tests— Calculation of the plasticity index of a soil

AS 1289.3.3.1—2009

1 SCOPE

This Standard sets out a method to calculate the plasticity index of a soil as derived from the liquid limit and the plastic limit of a soil.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

1289 Methods of testing soils for engineering purposes

1289.3.1.1 Method 3.1.1: Soil classification tests—Determination of the liquid limit of a soil—Four point Casagrande method

1289.3.1.2 Method 3.1.2: Soil classification tests—Determination of the liquid limit of a soil—One point Casagrande method (subsidiary method)

1289.3.2.1 Method 3.2.1: Soil classification tests—Determination of the plastic limit of a soil—Standard method

3 PROCEDURE

The procedure shall be as follows:

- (a) Determine liquid limit in accordance with AS 1289.3.1.1 or AS 1289.3.1.2. If the liquid limit cannot be determined the soil is considered to be non-plastic and the plastic limit need not be determined.
- (b) If a liquid limit value has been determined, perform the plastic limit in accordance with AS 1289.3.2.1 ensuring that the same method of preparation of the soil for the liquid limit and plastic limit has been followed.

4 CALCULATION

Using the reported values of w_L and w_P , calculate the plasticity index (I_p) from the following equation:

$$I_p = w_L - w_P$$

where

I_p = plasticity index, in percent.

w_L = liquid limit, in percent.

w_P = plastic limit, in percent.