AS 1289.3.6.3:2020

Australian STANDARD®

Methods of testing soils for engineering purposes

Part 3.6.3: Soil classification tests — Determination of the particle size distribution of a soil — Standard method of fine analysis using a hydrometer

STANDARDS Australia

AS 1289.3.6.3:2020

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Australian Building Codes Board
Australian Chamber of Commerce and Industry
Australian Geomechanics Society
Austroads Ltd
Cement Concrete & Aggregates Australia — Aggregates
Engineering & Construction Laboratories Association
Engineers Australia
National Association of Testing Authorities Australia
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The University of Sydney
Victorian Construction Materials Laboratories Association

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Preface

This Standard was prepared by the Standards Australia Committee CE-009, Testing of Soils for Engineering Purposes, to supersede AS 1289.3.6.3—2003, *Methods of testing soils for engineering purposes, Soil classification tests—Determination of the particle size distribution of a soil—Standard method of fine analysis using a hydrometer.*

This Standard is part of the AS 1289 series. A list of all parts in this series can be found in the Standards Australia online catalogue.

The objective of this Standard is to establish a method for the quantitative determination of the particle size distribution in a soil using an hydrometer.

The major changes in this edition are as follows:

(a) Preparation of the sample.

(b) Pre-treatment relocated to Appendix A.

The terms “normative” and “informative” are used in Standards to define the application of the appendices to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.

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Methods of testing soils for engineering purposes

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1 Scope

This Standard sets out a method for the quantitative determination of the particle size distribution in a soil from a coarse sand size down, using an hydrometer for particles finer than the 75 μm sieve (see Clause 9 Note 1).

The method as described is applicable if —

(a) more than 10 % of the material passes the 75 μm sieve as measured in AS 1289.3.6.1; and

(b) only an ASTM 152H hydrometer conforming to ASTM E100 is used. A method for calibrating an hydrometer is set out in Appendix B.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document:

NOTE: Documents referenced for informative purposes are listed in the Bibliography.

AS 1289.0, *Methods of testing soils for engineering purposes, Part 0: General requirements and list of methods*

AS 1289.1.1, *Methods of testing soils for engineering purposes, Method 1.1:Sampling and preparation of soils—Preparation of disturbed soil samples for testing*

AS 1289.2.1.1, *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)*

AS 1289.3.5.1, *Methods of testing soils for engineering purposes, Method 3.5.1: Soil classification tests—Determination of the soil particle density of a soil—Standard Method*

AS 1289.3.6.1, *Methods of testing soils for engineering purposes, Method 3.6.1: Soil classification tests—Determination of the particle size distribution of a soil—Standard method of analysis by sieving*

ASTM E100, *Standard Specification for ASTM Hydrometers*

3 Terms and definitions

For the purposes of this document, the terms and definitions in AS 1289.0 and the following apply.

3.1
factor F_1
volume and hydrometer scale calibration

3.2
factor F_2
temperature correction for soil particle density

3.3
factor F_3
determination of effective particle diameter