

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

METHODS OF TESTING PORTLAND AND BLENDED CEMENTS

## AS 2350.4

# SETTING TIME OF PORTLAND AND BLENDED CEMENTS

### PREFACE

This Standard was prepared by the Association's Committee on Cement to supersede AS 2350.4—1980, Methods of Testing Portland and Blended Cements—Determination of Soundness of Portland and Blended Cements.

**1 SCOPE.** This Standard describes a method for the determination of the setting time of portland and blended cements using a paste of normal consistency. The procedure to be used in obtaining a paste of normal consistency is given in AS 2350.3.

This Standard describes the reference method; it allows the use of alternative procedures only in well-defined cases, provided that the alternatives do not affect the results significantly as specified in Clause 4.

In the event of a dispute, only the reference method shall be used.

**2 REFERENCED DOCUMENTS.** This Standard refers to the Standards:

AS 1315 Portland Cement.

AS 1317 Blended Cement.

AS 2350.3 Methods of Testing Portland and Blended Cements  
Part 3: Normal Consistency of Portland and Blended Cements.

**3 DEFINITIONS.** For the purpose of this Standard the definitions below apply.

**3.1 Initial time set**—the elapsed time between the addition of water and the first refusal of the apparatus needle to penetrate a paste of normal consistency to within 1 mm of the surface of the plate 30 s after release.

**3.2 Final time set**—the elapsed time between the addition of water and first refusal of the apparatus needle to penetrate a paste of normal consistency more than 0.5 mm.

**4 ALTERNATIVE PROCEDURES—ACCEPTANCE CRITERION.** The acceptance criterion for alternative procedures shall be that the initial and final setting times shall have a 95% reliability of not differing from that obtained by the reference method of more than 5%.

**5 APPARATUS.** The following apparatus is required and shall be subject to the tolerances stated:

(a) *Tolerances.* The apparatus shall be maintained within the tolerances specified.

(b) *Setting time equipment.* The measuring equipment shall conform in principle to the design shown in Figure 1. Dimensions shown with tolerances are to be regarded as critical.

(c) *Timer.* The timer shall be readable to 1 s.

(d) *Laboratory.* The air within the laboratory, where preparation of the specimen takes place, shall be maintained at a temperature of  $23 \pm 2^\circ\text{C}$  and a relative humidity of not less than 50 %. The humidity controlled room or cabinet for storage of the specimen in the mould shall be continuously maintained at a temperature of  $23 \pm 2^\circ\text{C}$  and a relative humidity of not less than 90%.

**6 STORAGE OF SPECIMEN.** A paste of normal consistency within a mould and resting on a plate (as described in AS 2350.3) shall be placed in a humidity cabinet. The specimen shall remain in the humidity cabinet except for the brief periods of measurement.