

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

RECONFIRMATION

OF

AS/NZS 2350.18:2006

Methods of testing portland, blended and masonry cements

Method 18: Determination of water retention of masonry cement

RECONFIRMATION NOTICE

Technical Committee BD-010 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 24 February 2016.

Approved for reconfirmation in New Zealand on behalf of the Standards Council of New Zealand on 18 May 2016.

The following are represented on Technical Committee BD-010:

AUSTROADS

Cement and Concrete Association of New Zealand

Cement Concrete and Aggregates Australia

Cement Concrete and Aggregates Australia—Cement

Cement Concrete and Aggregates Australia—Concrete

Concrete Institute of Australia

Concrete Masonry Association of Australia

Engineers Australia

Portland Cement Association

NOTES

Australian/New Zealand Standard™

AS/NZS 2350.18:2006

Methods of testing portland, blended and masonry cements**Method 18: Determination of water retention of masonry cement****1 SCOPE**

This Standard sets out the method for determining the water retention of a masonry cement prepared and tested as a standard mortar.

NOTES:

- 1 The testing procedure herein may involve the use of materials or equipment that require safety measures to be observed.
- 2 This Standard does not purport to address all of the safety concerns, if any, associated with its use.
- 3 The user of this Standard should establish appropriate safety and health practices, and determine the applicability of regulatory limitations prior to use.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS/NZS

- 2350 Methods of testing of portland, blended and masonry cements
2350.1 Method 1: Sampling
2350.3 Method 3: Normal consistency

ASTM

- C230 Standard Specification for Flow Table for Use in Tests of Hydraulic Cement
C778 Standard Specification for Standard Sand

3 PRINCIPLE

A standard mortar is prepared by mechanically mixing 1 part masonry cement to 3 parts standard sand, by volume, with sufficient water to achieve a standard consistency as measured by the flow table. The standard fresh mortar is subjected to a vacuum and its ability to retain water is calculated from its change in consistency as measured by the flow table.

4 APPARATUS AND RELATED CONDITIONS**4.1 Laboratory**

The air within the laboratory in which the specimens are made and tested shall be maintained at a temperature of $23 \pm 2^\circ\text{C}$ and a relative humidity of not less than 50%.

4.2 Balance

The balance shall have a capacity appropriate to the mass required and shall be capable of weighing to the nearest 1 g.

4.3 Mixer

The mixer shall comply with the details given in AS/NZS 2350.3 with the additional requirements of mixing at the high speed given in Table 1.

4.4 Flow table and flow mould

The flow table shall be in accordance with Appendix A. The flow mould shall be in accordance with Paragraph A4 of Appendix A.

4.5 Tamper

The tamper shall be made of a non-absorptive, non-abrasive, non-brittle material such as a rubber compound having a Shore A durometer hardness of 80 ± 10 or seasoned hardwood rendered non-absorptive by immersion for 15 min in paraffin wax at approximately 200°C . It shall have a cross-section of 13 by 25 mm and a convenient length (125–150 mm). The tamping face shall be flat and at right angles to the length of the tamper.

4.6 Water retention apparatus

The apparatus shall be in accordance with Appendix B.

4.7 Straightedge

A steel straightedge not less than 200 mm long with thickness between 1.5 mm and 3 mm and approximately 25 mm wide.

4.8 Trowel

A trowel having a steel blade, 100 to 150 mm long, with straightedges.

4.9 Bulk density container

The container (with a capacity of approximately 15 L) shall be made of metal not less than 3 mm thick, and shall be watertight and sufficiently rigid to maintain its shape with rough usage. The inside surface shall be smooth and free from corrosion and the rim of the measure shall be machined to a plane surface perpendicular to the axis of the cylinder. The measure shall be provided with carrying handles. The diameter of the measure shall be between 0.75 and 1.25 times the height.

4.10 Scraper

A semi-rigid rubber or suitable plastic blade attached to a handle about 150 mm long, with a blade of about 75 mm long, 50 mm wide, and tapered to a thin edge about 1.5 mm wide.

TABLE 1
SPEEDS OF MIXER BLADE

Speed setting	Mixer blade r/min	Planetary movement r/min
Low speed	140 ± 5	62 ± 5
High speed	285 ± 10	125 ± 10

5 MATERIALS

5.1 Standard sand

5.1.1 20–30 sand

The 20–30 sand shall comply with the requirements of ASTM C778.

5.1.2 Graded sand

The graded sand shall comply with the requirements of ASTM C778.