

STANDARDS AUSTRALIA

RECONFIRMATION

OF

AS 3583.4—1991

**Methods of test for supplementary cementitious materials for use with portland
cement**

Method 4: Determination of autoclave expansion

RECONFIRMATION NOTICE

Technical Committee BD-031 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 29 March 2016.

The following are represented on Technical Committee BD-031:

Amorphous Silica Association of Australia
Ash Development Association of Australia
Australasian (iron & steel) Slag Association
AUSTROADS
Bureau of Steel Manufacturers of Australia
Cement & Concrete Association of New Zealand
Cement Concrete & Aggregates Australia—Cement
Cement Concrete & Aggregates Australia—Concrete
Concrete Institute of Australia
Engineers Australia
The University of New South Wales
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NOTES

Australian Standard®

Methods of test for supplementary cementitious materials for use with portland cement

Method 4: Determination of autoclave expansion

PREFACE

This Standard was prepared by the Standards Australia Committee on Supplementary Cementitious Materials for use with Portland Cement.

METHOD

1 SCOPE This Standard sets out the reference method for determination of autoclave expansion of mortar containing supplementary cementitious materials.

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard.

AS

1210	SAA Unfired Pressure Vessels Code
1315	Portland cement
1449	Wrought alloy steels—Stainless and heat-resisting steel plate, sheet and strip
2350	Methods of testing portland and blended cements
2350.3	Method 3: Normal consistency of portland and blended cements
3582	Supplementary cementitious materials for use with portland cement
3582.1	Part 1: Fly Ash

3 PRINCIPLE A specimen is prepared from a mortar containing the test sample. It is then measured and subjected to steam autoclaving for a prescribed period. After cooling it is remeasured, and the percentage change in length is reported.

4 APPARATUS The following apparatus is required:

- Autoclave, specified in Appendix A.
- Bar mould, specified in Appendix A.
- Length comparator, specified in Appendix A.
- Moist cupboard or room, capable of maintaining the atmosphere within it at a temperature of $23 \pm 2^\circ\text{C}$ and at a relative humidity of not less than 90 percent.
- Water bath, of sufficient capacity to accommodate and fully immerse the test specimen, and which is capable of being controlled at 23°C to within $\pm 1^\circ\text{C}$ for not less than 15 min.

5 PREPARATION OF SPECIMENS

5.1 Preparation of paste Prepare a paste of normal consistency in accordance with the method set out in AS 2350.3, but using the following material quantities:

- Fly ash 120 g
- Portland cement complying with AS 1315 480 g.