AS/NZS 3582.1:2016

Australian/New Zealand Standard™

Supplementary cementitious materials

Part 1: Fly ash

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee BD-031, Supplementary Cementitious Materials. It was approved on behalf of the Council of Standards Australia on 11 January 2016 and on behalf of the Council of Standards New Zealand on 28 January 2016.
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The following are represented on Committee BD-031:

Amorphous Silica Association of Australia
Ash Development Association of Australia
Australasian (iron and steel) Slag Association
Austroads
Bureau of Steel Manufacturers of Australia
Cement Concrete and Aggregates Australia—Cement
Cement Concrete and Aggregates Australia—Concrete
Cement and Concrete Association of New Zealand
Concrete Institute of Australia
Engineers Australia
University of New South Wales
University of Technology, Sydney

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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR AS/NZS 3582.1:2015.

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee BD-031, Supplementary Cementitious Materials, to supersede AS 3582.1—1998, *Supplementary cementitious materials for use with portland and blended cement*, Part 1: *Fly ash*.

The objective of this Standard is to set out the requirements for fly ash for use as a cementitious material in concrete, mortar and related applications.

The principal differences between this and the previous edition are the introduction of new grades of fly ash, recognition of proven and unproven sources, amendments to sampling and testing requirements. The Standard now aligns with AS 2758 in terms of requirements for mitigating alkali silica reaction in concrete. It also aligns with AS 3972.

The term 'informative' has been used in this Standard to define the application of the appendices to which it applies. An 'informative' appendix is only for information and guidance.

Notes used in this Standard are of an advisory nature only and are used to give explanation or guidance to the user on recommended considerations or technical procedures, or to provide an informative cross-reference to other documents or publications. Notes to clauses in this Standard do not form a mandatory part for compliance with this Standard.

Statements expressed in mandatory terms in notes to tables are deemed to be requirements of this Standard.

This document includes commentary on some of the clauses of the Standard. The commentary directly follows the relevant clause, is designated by 'C' preceding the clause number and is printed in italics in a box. The commentary is for information and guidance and does not form part of the Standard

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FOREWORD

The review of the AS(/NZS) 3582 series was a planned process aimed at contemporizing these material Standards which have not been reviewed for more than 13 years.

In planning and undertaking this project a staged approach was considered in consultation with Standards Australia. That is, the project proponents consulted with, and sought the views of, major stakeholders prior to the commencement of the formal Standards review, through the joint Standards Australia/Standards New Zealand Committee BD-031. A collaborative pathway with Standards Australia was funded by industry to carry out the review.

The initial project review process encompassed various manufacturers, suppliers, users and academics with interest in these materials. Stakeholders were consulted through respective industry associations of the Ash Development Association of Australia, Australasian (iron and steel) Slag Association, Amorphous Silica Association of Australia and Cement Concrete and Aggregates Australia. A series of consultative meetings were conducted which determined the review needed to provide a performance based approach, widening the Standards applications and methods of demonstrating compliance.

The formal review considered and adopted, where appropriate, international and national standards. Existing referenced standards documents were reviewed, changes proposed and elaborated upon, and supporting information collated, with consultation across appropriate membership groups to ensure alignment across the supply chain.

In summary, the major changes include the introduction of new classes of materials, definitions for proven and unproven sources and corresponding testing frequencies, and incorporating product conformity requirements in the normative section which was previously in the ‘informative’ section.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard
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1 SCOPE

This Standard sets out requirements for fly ash for use as a cementitious material in concrete, mortar and related applications.

C1 *It is acknowledged that fly ash may be used in other applications, for example, alkali activated materials (e.g. geopolymer concrete) and stabilization.*

2 APPLICATION

As this standard sets out minimum requirements, it may be necessary to supplement with related industry specifications as required.

C2 *For fly ash used in concrete for high durability structures, typically those with a design life of 100 years or greater, supplementary specifications may be required.*

3 NORMATIVE REFERENCES

The following are the normative documents referenced in this Standard:

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

AS

2350	Methods of testing Portland, blended and masonry cements
2350.2	Method 2: Chemical composition
2350.9	Method 9: Determination of residue on the 45 µm sieve
3583	Methods of test for supplementary cementitious materials for use with Portland and blended cement
3583.1	Method 1: Determination of fineness by the 45 µm sieve
3583.2	Method 2: Determination of moisture content
3583.3	Method 3: Determination of loss on ignition
3583.5	Method 5: Determination of relative density
3583.6	Method 6: Determination of relative water requirement and relative strength
3583.8	Method 8: Determination of sulfuric anhydride content
3583.12	Method 12: Determination of available alkali
3583.13	Method 13: Determination of chloride ion content
3972	General purpose and blended cements

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2350	Methods of testing Portland, blended and masonry cements
2350.1	Method 1: Sampling