

Australian/New Zealand Standard™

**Supplementary cementitious materials
for use with portland and blended
cement**

Part 3: Amorphous silica

AS/NZS 3582.3:2002

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee BD-031, Supplementary Cementitious Materials for Use with Portland and Blended Cement. It was approved on behalf of the Council of Standards Australia on 16 November 2002 and on behalf of the Council of Standards New Zealand on 12 November 2002. It was published on 17 December 2002.

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Australasian Slag Association
Australian Pre-Mixed Concrete Association
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Supplementary cementitious materials for use with portland and blended cement

Part 3: Amorphous silica

Originated as AS 3582.3—1994.
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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee BD-031, Supplementary Cementitious Materials for Use with Portland and Blended Cement, to supersede AS 3582.3—1994, *Supplementary cementitious materials for use with portland cement*, Part 3: *Silica fume*.

The objective of this Standard is to enable the specification of silica fume and naturally occurring amorphous silica for use as a supplementary cementitious material in concrete, mortar and grout.

The test methods for relative strength and relative water demand have been changed because it has been found that the existing test is not applicable to the assessment of the properties of amorphous silica. The ASTM method introduces a sensitivity which does not exist in the AS 3583.6 test and is therefore considered more appropriate for testing this type of supplementary cementitious material.

The Committee considered the specification of amorphous silica content, however as there is no known Standard Test Method for amorphous silica content at the time of writing, the existing total silica content specification was retained.

The Committee will continue to review developments in these matters and incorporate appropriate criteria when available.

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

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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard**Supplementary cementitious materials for use with portland and blended cement****Part 3: Amorphous silica****1 SCOPE**

This Standard sets out requirements for amorphous silica as a supplementary material in concrete, mortar and grout.

NOTES:

- 1 Alternative methods for determining compliance with this Standard are given in Appendix A.
- 2 Other synthetic materials may be available but are not covered by this Standard.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

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| 1199 | Sampling procedures and tables for inspection by attributes |
| 1289 | Methods of testing soils for engineering purposes |
| 1289.1.1 | Part 1.1: Sampling and preparation of soils—Preparation of disturbed soil samples for testing |
| 1399 | Guide to AS 1199—Sampling procedures and tables for inspection by attributes |
| 2350 | Methods of testing portland and blended cements |
| 2350.2 | Part 2: Chemical composition of portland cement |
| 2879 | Alumina |
| 2879.4 | Part 4: Determination of specific surface area by nitrogen adsorption |
| 3583 | Methods of test for supplementary cementitious materials for use with portland cement |
| 3583.2 | Method 2: Determination of moisture content |
| 3583.3 | Method 3: Determination of loss on ignition |
| 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 |
| HB 18 | Guidelines for third-party certification and accreditation |
| HB 18.28 | Guide 28: General rules for a model third-party certification system for products |

AS/NZS ISO

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| 9001 | Quality management systems—Requirements |
| 9004 | Quality management systems—Guidelines for performance improvements |

ASTM

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| C1240 | Standard Specification for Use of Silica Fume for Use as a Mineral Admixture in Hydraulic Cement Concrete, Mortar and Grout |
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