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A3000-13

Cementitious materials compendium



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Standards Update Service

A3000-13

October 2013

Title: *Cementitious materials compendium*

Pagination: **247 pages** (xiv preliminary and 233 text), each dated **October 2013**

To register for e-mail notification about any updates to this publication

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A3000-13
Cementitious materials compendium



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*Published in October 2013 by CSA Group
A not-for-profit private sector organization
5060 Spectrum Way, Suite 100, Mississauga, Ontario, Canada L4W 5N6
1-800-463-6727 • 416-747-4044*

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ISBN 978-1-77139-321-8

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Preface

This is the fourth edition of the CSA A3000, *Cementitious materials compendium*. It supersedes the previous editions published in 2008, 2003, and 1998.

Significant changes from the previous edition include the following:

- (a) ASTM reference publications have been updated to reflect current ASTM format.
- (b) The definition of “blended hydraulic cement” has been changed to “a single manufactured product”.
- (c) The [Clause 5.2.2](#) example has been modified for clarity.
- (d) Note 3 of [Table 9](#) in A3000 has been modified to include guidance on the 18 month test period where it is recommended that SCM replacements higher than the identified minimums should also be tested.
- (e) Addition of a new [Annex D](#) to provide additional informative information on sustainable development and the cement industry.
- (f) The air content in [Table 1](#) of A3002 has been changed for type N from 22 to 21 and for type S from 20 to 19 to harmonize with ASTM C91.
- (g) Further clarification has been added to [Clause 12.9.1](#) of A3003 to note that the C3A is calculated in Portland cement.
- (h) Additional information has been added to [Clause 3](#) of A3004-C8 to specify that mortar bars need to be stored in a sulphate solution for up to one year for Procedure A and up to two years for Procedure B.
- (i) Where possible, changes have also been made for the purpose of harmonization with ASTM specifications.
- (j) A3004-B8 has been added as an alternative test method for determination of heat of hydration by isothermal conduction calorimetry.
- (k) A number of minor editorial changes have also been completed to offer additional clarity to the user.
- (l) Reference publications have been updated to reflect current editions.

CSA Group gratefully acknowledges the following funding stakeholders and the industry association for their contribution to the development of A3000: Lafarge Canada Inc., Ciment Québec Inc., Holcim (Canada) Inc., ESSROC, Italcementi Group, St. Marys Cement Group, Lehigh Hanson, Colacem Canada Inc., Federal White, and Cement Association of Canada.

These Standards were prepared by the Technical Committee on Hydraulic Cement and Supplementary Cementing Materials, under the jurisdiction of the Strategic Steering Committee on Concrete and Related Products, and have been formally approved by the Technical Committee.

Notes:

- (1)** Use of the singular does not exclude the plural (and vice versa) when the sense allows.
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A3001-13
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A not-for-profit private sector organization
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A3001-13

Cementitious materials for use in concrete

1 Scope

1.1

This Standard addresses the following aspects of cementitious materials:

- (a) their definitions;
- (b) their chemical, physical, and uniformity requirements;
- (c) the tests required;
- (d) the procedures for inspection and sampling; and
- (e) the units of measurement, packaging, marking, and storage.

1.2

The cementitious materials for use in concrete are classified as follows in this Standard:

- (a) portland cement;
- (b) blended hydraulic cement;
- (c) portland-limestone cement;
- (d) supplementary cementing materials; and
- (e) blended supplementary cementing materials.

1.3

In CSA Standards, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; “should” is used to express a recommendation or that which is advised but not required; “may” is used to express an option or that which is permissible within the limits of the standard; and “can” is used to express possibility or capability.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.

1.4

Values are given in SI (metric) units. The values given in parentheses are for information only.

2 Reference publications

This Standard refers to the following publications, and where such reference is made, it shall be to the edition listed below, including all amendments published thereto.

CSA Group

A23.1-09/A23.2-09

Concrete materials and methods of concrete construction/Test methods and standard practices for concrete