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A231.1-14/A231.2-14

Precast concrete paving slabs/Precast concrete pavers

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Precast concrete pavers***



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Preface

This is the second edition of CSA A231.1/A231.2, *Precast concrete paving slabs/Precast concrete pavers*. It supersedes the previous edition published in 2006.

The following changes since the publication of the previous edition of CSA A231.1/A231.2 are reflected in this Standard:

- (a) **Clause 7.2** of CSA A231.1: In the flexural (transverse) strength test, additional guidance has been included related to the split tensile testing of concrete slabs having textured surfaces.
- (b) **Clause 7.3** of CSA A231.1: In the de-icing salts freeze-thaw durability test, the use of an 80 µm sieve to collect particulate has been added and the cutting of samples to fit in the test chamber is specifically allowed.
- (c) **Clause 5.1** of CSA A231.2: Provides guidance on the use of the test methods in this Standard for larger units that don't meet the strict definition of concrete pavers.
- (d) **Clause 5.4** of CSA A231.2: Was added to provide guidance for field sampling for material acceptance and to highlight that it is different than field sampling for structural integrity.
- (e) **Clause 7.1** of CSA A231.2: Language was revised to ensure the consistent conditioning and testing of both cored and cubed samples.
- (f) **Clause 7.2** of CSA A231.2: The compressive strength test now includes detail of the test method that used to be referenced from another standard which is now obsolete.
- (g) **Clause 7.3** of CSA A231.2: In the de-icing salts freeze-thaw durability test, the use of an 80 µm sieve to collect particulate has been added.
- (h) **Annex C** of CSA A231.2: Was added to highlight the issues related to the use of segmental concrete units that don't meet the aspect ratio requirements for concrete pavers.

CSA gratefully acknowledges the contribution of the Interlocking Concrete Pavement Institute to the development of this Standard.

These Standards were prepared by the Technical Committee on Precast Concrete Paving Elements, 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.*
- (2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
- (3) *This Standard was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as “substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity”. It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Standard.*
- (4) *To submit a request for interpretation of this Standard, please send the following information to inquiries@csagroup.org and include “Request for interpretation” in the subject line:*
 - (a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
 - (b) *provide an explanation of circumstances surrounding the actual field condition; and*
 - (c) *where possible, phrase the request in such a way that a specific “yes” or “no” answer will address the issue.*

Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization and are available on the Current Standards Activities page at standardsactivities.csa.ca.
- (5) *This Standard is subject to a review within five years from the date of publication. Suggestions for its improvement will be referred to the appropriate committee. To submit a proposal for change, please send the following information to inquiries@csagroup.org and include “Proposal for change” in the subject line:*
 - (a) *Standard designation (number);*
 - (b) *relevant clause, table, and/or figure number;*
 - (c) *wording of the proposed change; and*
 - (d) *rationale for the change.*

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Precast concrete paving slabs



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A231.1-14

Precast concrete paving slabs

1 Scope

1.1

This Standard specifies requirements for concrete paving slabs manufactured from hydraulic cement concrete to be used in the construction of pavement and roof coverings. This Standard includes units with architectural finishes or tactile surfaces.

Note: *Annex A contains information on efflorescence and recommends methods for its removal. Annex B provides information on the installation of pavement components made with precast concrete paving slabs.*

1.2

In this Standard, “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; and “may” is used to express an option or that which is permissible within the limits of the standard.

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 (nonmandatory) to define their application.

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

A231.2-14

Precast concrete pavers

CAN/CSA-A3001-13 (part of CAN/CSA-A3000-13, *Cementitious materials compendium*)

Cementitious materials for use in concrete

ACI (American Concrete Institute)

212.3R-10

Report on Chemical Admixtures for Concrete

ASTM International (American Society for Testing and Materials)

C260/C260M-10a

Standard Specification for Air-Entraining Admixtures for Concrete

C494/C494M-13

Standard Specification for Chemical Admixtures for Concrete

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A231.2-14

Precast concrete pavers

1 Scope

1.1

This Standard specifies requirements for concrete pavers manufactured from hydraulic cement concrete to be used in the construction of pedestrian and vehicular traffic areas.

Note: *Annex A contains information on efflorescence and recommends methods for its removal. Annex B provides information on the installation of interlocking concrete pavements. Annex C contains information about testing and using concrete paver-like units that do not meet the strict definition of a paver as pavers.*

1.2

In this Standard, “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; and “may” is used to express an option or that which is permissible within the limits of the standard.

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CSA Group

A23.1-09/A23.2-09

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

CAN/CSA-A179-04 (R2009)

Mortar and grout for unit masonry

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Precast concrete paving slabs

CAN/CSA-A3001-13 (part of CAN/CSA-A3000-13, *Cementitious materials compendium*)

Cementitious materials for use in concrete

CGSB (Canadian Standard Board)

CAN/CGSB-8.2-M88

Sieves, Testing, Woven Wire, Metric

AASHTO (American Association of State Highway and Transportation Officials)

GDPS-4-M (1993)

AASHTO Guide for Design of Pavement Structures