

Precast concrete — Materials and construction



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Δ Preface

This is the sixth edition of CSA A23.4, *Precast concrete — Materials and construction*. It supersedes the previous editions, published in 2009, 2005, 2000, 1994, and 1978.

This Standard has been revised to include all necessary technical requirements for precast concrete. This Standard refers extensively to CSA A23.1. To make it easier to navigate between the two Standards, Annex E lists the clauses of CSA A23.1 that contain provisions relating to clauses in this Standard.

CSA Group acknowledges that the development of this Standard was made possible, in part, by the financial support of the Canadian Precast/Prestressed Concrete Institute.

This Standard was prepared by the Technical Committee on Precast Concrete, under the jurisdiction of the Strategic Steering Committee on Concrete and Related Products, and has 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 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.*

A23.4-16

Precast concrete — Materials and construction

0 Introduction

0.1 Referencing this Standard in contract documents

Because this Standard references all of the applicable requirements of CSA A23.1, contract documents for precast concrete construction may reference this Standard without having to reference CSA A23.1.

0.2 Use of Annex [A](#)

Annex [A](#) provides a recommended division of responsibilities between the owner and the manufacturer. Table [A.1](#) outlines three options that may be adopted by the owner when contract documents are prepared. Consideration should be given to including the text of Annex [A](#) in the contract documents; however, if this is done, the owner should clearly specify which option has been adopted.

0.3 Use of Annex [B](#)

Annex [B](#) deals with the scope of the work and is intended to assist owners preparing contract documents. The text of Annex [B](#) may be included in whole or in part in contract documents.

0.4 Use of Annex [C](#)

Annex [C](#) provides guidance on the acceptable variations for architectural precast concrete and is a guide for owners and owner representatives.

0.5 Use of Annex [D](#)

Annex [D](#) describes the requirements for reporting environmental impacts related to the production of precast concrete. Three levels of reporting are provided.

0.6 Use of Annex [E](#)

Annex [E](#) lists the clauses of CSA A23.1 that correspond to the clauses of this Standard to assist users in locating topics common to both Standards.

1 Scope

1.1 General

This Standard specifies requirements for materials and methods for the manufacture, transportation, and installation of architectural, structural, and specialty precast concrete products.

Note: *This Standard should be specified for precast concrete elements used in segmental construction.*

1.2 Shop drawings

This Standard specifies the requirements, in addition to those specified in CSA A23.3, for precast concrete shop drawings.

1.3 Architectural precast concrete

This Standard deals with the structural adequacy and architectural finishes of architectural precast concrete.

1.4 Precedence

Where this Standard states that the content of a clause is required to conform to a referenced Standard and to additional clauses of this Standard and there is a conflict between the referenced Standard and the requirements of this Standard, the requirements of this Standard take precedence.

1.5 Terminology

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 (non-mandatory) 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

A23.1-14/A23.2-14

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

A23.3-14

Design of concrete structures

S6-14

Canadian Highway Bridge Design Code

CAN/CSA-S269.3-M92 (R2013)

Concrete formwork

S413-14

Parking structures

W47.1-09 (R2014)

Certification of companies for fusion welding of steel