CSA Z252:23

Volumetric modular construction — Guide to compliance and approval processes

Legal Notice for Standards

Canadian Standards Association (operating as "CSA Group") develops standards through a consensus standards development process approved by the Standards Council of Canada. This process brings together volunteers representing varied viewpoints and interests to achieve consensus and develop a standard. Although CSA Group administers the process and establishes rules to promote fairness in achieving consensus, it does not independently test, evaluate, or verify the content of standards.

Disclaimer and exclusion of liability

This document is provided without any representations, warranties, or conditions of any kind, express or implied, including, without limitation, implied warranties or conditions concerning this document's fitness for a particular purpose or use, its merchantability, or its non-infringement of any third party's intellectual property rights. CSA Group does not warrant the accuracy, completeness, or currency of any of the information published in this document. CSA Group makes no representations or warranties regarding this document's compliance with any applicable statute, rule, or regulation.

IN NO EVENT SHALL CSA GROUP, ITS VOLUNTEERS, MEMBERS, SUBSIDIARIES, OR AFFILIATED COMPANIES, OR THEIR EMPLOYEES, DIRECTORS, OR OFFICERS, BE LIABLE FOR ANY DIRECT, INDIRECT, OR INCIDENTAL DAMAGES, INJURY, LOSS, COSTS, OR EXPENSES, HOWSOEVER CAUSED, INCLUDING BUT NOT LIMITED TO SPECIAL OR CONSEQUENTIAL DAMAGES, LOST REVENUE, BUSINESS INTERRUPTION, LOST OR DAMAGED DATA, OR ANY OTHER COMMERCIAL OR ECONOMIC LOSS, WHETHER BASED IN CONTRACT, TORT (INCLUDING NEGLIGENCE), OR ANY OTHER THEORY OF LIABILITY, ARISING OUT OF OR RESULTING FROM ACCESS TO OR POSSESSION OR USE OF THIS DOCUMENT, EVEN IF CSA GROUP HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, INJURY, LOSS, COSTS, OR EXPENSES.

In publishing and making this document available, CSA Group is not undertaking to render professional or other services for or on behalf of any person or entity or to perform any duty owed by any person or entity to another person or entity. The information in this document is directed to those who have the appropriate degree of experience to use and apply its contents, and CSA Group accepts no responsibility whatsoever arising in any way from any and all use of or reliance on the information contained in this document.

CSA Group is a private not-for-profit company that publishes voluntary standards and related documents. CSA Group has no power, nor does it undertake, to enforce compliance with the contents of the standards or other documents it publishes.

Intellectual property rights and ownership

As between CSA Group and the users of this document (whether it be in printed or electronic form), CSA Group is the owner, or the authorized licensee, of all works contained herein that are protected by copyright, all trade-marks (except as otherwise noted to the contrary), and all inventions and trade secrets that may be contained in this document, whether or not such inventions and trade secrets are protected by patents and applications for patents. Without limitation, the unauthorized use, modification, copying, or disclosure of this document may violate laws that protect CSA Group's and/or others' intellectual property and may give rise to a right in CSA Group and/or others to seek legal redress for such use, modification, copying, or disclosure. To the extent permitted by licence or by law, CSA Group reserves all intellectual property rights in this document.

Patent rights

Attention is drawn to the possibility that some of the elements of this standard may be the subject of patent rights. CSA Group shall not be held responsible for identifying any or all such patent rights. Users of this standard are expressly advised that determination of the validity of any such patent rights is entirely their own responsibility.

Authorized use of this document

This document is being provided by CSA Group for informational and non-commercial use only. The user of this document is authorized to do only the following:

If this document is in electronic form:

- load this document onto a computer for the sole purpose of reviewing it;
- search and browse this document; and
- print this document if it is in PDF format.

Limited copies of this document in printed or paper form may be distributed only to persons who are authorized by CSA Group to have such copies, and only if this Legal Notice appears on each such copy.

In addition, users may not and may not permit others to

- alter this document in any way or remove this Legal Notice from the attached standard;
- sell this document without authorization from CSA Group; or
- make an electronic copy of this document.

If you do not agree with any of the terms and conditions contained in this Legal Notice, you may not load or use this document or make any copies of the contents thereof, and if you do make such copies, you are required to destroy them immediately. Use of this document constitutes your acceptance of the terms and conditions of this Legal Notice.

Standards Update Service

CSA Z252:23
May 2023

Title: *Volumetric modular construction — Guide to compliance and approval processes*

To register for e-mail notification about any updates to this publication
- go to www.csagroup.org/store/
- click on **Product Updates**

The **List ID** that you will need to register for updates to this publication is 2430262.

If you require assistance, please e-mail techsupport@csagroup.org or call 416-747-2233.

Visit CSA Group's policy on privacy at www.csagroup.org/legal to find out how we protect your personal information.

CSA Z252:23

Volumetric modular construction — Guide to compliance and approval processes

Published in May 2023 by CSA Group
A not-for-profit private sector organization
178 Rexdale Boulevard, Toronto, Ontario, Canada M9W 1R3

To purchase standards and related publications, visit our Online Store at www.csagroup.org/store/ or call toll-free 1-800-463-6727 or 416-747-4044.

ICS 91.010, 91.010.30
ISBN 978-1-4883-4793-1

Contents

Technical Committee on Volumetric Modular Construction

K. L. Finzel	Arup, New York City, New York, USA *Category: General Interest*	*Chair*
D. Warne	Skyhook Modular, Toronto, Ontario, Canada *Category: Designer Interest*	*Vice-Chair*
H. Ahmed	NRB Modular, Cambridge, Ontario, Canada *Category: Producer Interest*	
M. Al-Hussein	University of Alberta, Edmonton, Alberta, Canada *Category: General Interest*	
J. Beckett	City of Hamilton, Hamilton, Ontario, Canada	*Non-voting*
A. De Francesca	City of Toronto, Toronto, Ontario, Canada *Category: User Interest/Regulatory Authority*	
J. Dunn	Stack Modular, Vancouver, British Columbia, Canada *Category: Producer Interest*	
K. Ernst	Oakville Stamping and Bending Ltd., Oakville, Ontario, Canada	*Non-voting*
G. Fairthorne	National Research Council, Ottawa, Ontario, Canada	*Non-voting*
J. Finnett	JF Development Advisory Inc., Toronto, Ontario, Canada *Category: User Interest/Regulatory Authority*	
R. Frederick	Government of Alberta, Edmonton, Alberta, Canada *Category: User Interest/Regulatory Authority*	

H. Gheadnia	Z Modular, Harrow, Ontario, Canada	*Non-voting*
M. Ghods	Pivotic Properties, Vancouver, British Columbia, Canada	*Non-voting*
C. Goodier	Loughborough University, Loughborough, United Kingdom	*Non-voting*
E. Gould	Stack Modular, Vancouver, British Columbia, Canada	*Non-voting*
T. Greenough	Entuitive, Toronto, Ontario, Canada *Category: Designer Interest*	
K. Habib	CSA Group, Edmonton, Alberta, Canada	*Non-voting*
M. Hachborn	M.E. Hachborn Engineering, Barrie, Ontario, Canada	*Non-voting*
T. Hardiman	Modular Building Institute, Charlottesville, Virginia, USA *Category: Producer Interest*	
S. J. Haylestrom	The Modular Solution, Warkworth, Ontario, Canada *Category: User Interest/Regulatory Authority*	
R. M. Hessabi	Ontario Ministry of Municipal Affairs and Housing, Toronto, Ontario, Canada *Category: User Interest/Regulatory Authority*	
A. Imanpour	University of Alberta, Edmonton, Alberta, Canada	*Non-voting*
R. Jackman	Canadian Wood Council, Ottawa, Ontario, Canada *Category: General Interest*	
B. Kasprzyk	Ecologiq, Gdańsk, Poland *Category: Designer Interest*	

J. Kiss	ROC Modular, Bow Island, Alberta, Canada *Category: Producer Interest*	
T. Koe	MetaLigna Modular Inc., Hastings, Ontario, Canada	*Non-voting*
C. Lafond	FPInnovations, Québec, Québec, Canada	*Non-voting*
K. D. Maynard	Canadian Home Builders' Association, Ottawa, Ontario, Canada	*Non-voting*
J. B. McFadden	National Research Council of Canada, Ottawa, Ontario, Canada *Category: User Interest/Regulatory Authority*	
O. Mercan	University of Toronto, Toronto, Ontario, Canada	*Non-voting*
A. Michail	City of Toronto, Toronto, Ontario, Canada	*Non-voting*
O. Moselhi	Concordia University, Montréal, Québec, Canada *Category: General Interest*	
J. Rankin	University of New Brunswick, Fredericton, New Brunswick, Canada *Category: General Interest*	
R. Rebello	Skyrise Prefab, Pickering, Ontario, Canada	*Non-voting*
E. Resendes	ED Modular (EllisDon), Stoney Creek, Ontario, Canada *Category: Producer Interest*	
L. Robert	Grimsby, Ontario, Canada *Category: General Interest*	
B. Roberts	Jerol Technologies Inc., Aurora, Ontario, Canada *Category: Designer Interest*	

K. Ruhland	MTE Consultants Inc., Kitchener, Ontario, Canada *Category: Designer Interest*	
G. Trudeau	RCM Modulaire, Saint-Benoît-Labre, Québec, Canada *Category: Producer Interest*	
D. Wong	QAI Laboratories Ltd., Burnaby, British Columbia, Canada	*Non-voting*
C. Zanfir	CWB Group, Milton, Ontario, Canada	*Non-voting*
S. Chung	CSA Group, Toronto, Ontario, Canada	*Project Manager*

Preface

This is the first edition of CSA Z252, *Volumetric modular construction — Guide to compliance and approval processes*.

CSA Group acknowledges that the development of this Document was made possible, in part, by the financial support of Bird Construction, Groupe RCM, the Modular Building Institute, ROC Modular Inc., Stack Modular, and Z Modular Inc.

This Guide was prepared by the Technical Committee on Volumetric Modular Construction, under the jurisdiction of the Strategic Steering Committee on Construction and Civil Infrastructure, 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 Guide is stated in its Scope, it is important to note that it remains the responsibility of the users of the Guide to judge its suitability for their particular purpose.*
3) *This Guide 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 Guide.*
4) *To submit a request for interpretation of this Guide, 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.csagroup.org.*
5) *This Guide 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) *Guide designation (number);*
   b) *relevant clause, table, and/or figure number;*
   c) *wording of the proposed change; and*
   d) *rationale for the change.*

CSA Z252:23
Volumetric modular construction — Guide to compliance and approval processes

0 Introduction

This Guide is a supplement to CSA A277 and CSA Z250. It focuses on the inspections and approvals processes followed by authorities having jurisdiction (AHJs) that evaluate the compliance of the modular building for construction and occupancy.

The growth of the modular construction industry in Canada is being driven by the need to build faster and safer while simultaneously optimizing quality, labour, and cost efficiency. Modular construction practices follow some pathways that are distinct from conventional construction methodology. This methodology can potentially offer enhancements to traditional construction practices, including improved worker safety, reduced waste, expedited schedules, reduced environmental impact during construction, improved cost efficiencies, and increased levels of quality control.

To assist all project stakeholders in proper project planning and development, this Guide and other CSA modular building standards are intended to provide information and guidelines related to the process and best practices.

1 Scope

1.1 General

This Guide provides Canadian best practices for the process of inspecting, reviewing, and approving modular construction projects for partially or fully enclosed modules that are constructed in an off-site factory and transported and installed at the final location. These guidelines are intended for construction, inspection, and reviewing of permanent modular buildings of any size and occupancy.

This Guide includes information on

a) plans preparation and review;
b) permit application package inclusions;
c) site/development permit inclusions;
d) codes and standards applicable to modular construction;
e) factory certification program procedures;
f) third-party inspection agencies' roles and responsibilities;
g) transportation and storage practices; and
h) recommended on-site installation and inspection procedures.

Note: *The appropriate provincial/territorial regulatory body may be consulted for the roles and responsibilities of professionals.*

1.2 Terminology

In this Guide, "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 Guide.