



**CSA 0325:21**  
(NIST PS 2-18, MOD)  
National Standard of Canada



**CSA 0325:21**  
**Construction sheathing**  
(NIST PS 2-18, MOD)



Standards Council of Canada  
Conseil canadien des normes

# 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 treaty 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 form.

Limited copies of this document in print 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 hereof, 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 0325:21*

*February 2021*

**Title:** *Construction sheathing*

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

- go to [www.csagroup.org/store/](http://www.csagroup.org/store/)
- click on **Product Updates**

The **List ID** that you will need to register for updates to this publication is **24288.0**

If you require assistance, please e-mail [techsupport@csagroup.org](mailto:techsupport@csagroup.org) or call 416-747-2233.

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

**Canadian Standards Association (operating as “CSA Group”)**, under whose auspices this National Standard has been produced, was chartered in 1919 and accredited by the Standards Council of Canada to the National Standards system in 1973. It is a not-for-profit, nonstatutory, voluntary membership association engaged in standards development and certification activities.

CSA Group standards reflect a national consensus of producers and users — including manufacturers, consumers, retailers, unions and professional organizations, and governmental agencies. The standards are used widely by industry and commerce and often adopted by municipal, provincial, and federal governments in their regulations, particularly in the fields of health, safety, building and construction, and the environment.

Individuals, companies, and associations across Canada indicate their support for CSA Group’s standards development by volunteering their time and skills to Committee work and supporting CSA Group’s objectives through sustaining memberships. The more than 7000 committee volunteers and the 2000 sustaining memberships together form CSA Group’s total membership from which its Directors are chosen. Sustaining memberships represent a major source of income for CSA Group’s standards development activities.

CSA Group offers certification and testing services in support of and as an extension to its standards development activities. To ensure the integrity of its certification process, CSA Group regularly and continually audits and inspects products that bear the CSA Group Mark.

In addition to its head office and laboratory complex in Toronto, CSA Group has regional branch offices in major centres across Canada and inspection and testing agencies in eight countries. Since 1919, CSA Group has developed the necessary expertise to meet its corporate mission: CSA Group is an independent service organization whose mission is to provide an open and effective forum for activities facilitating the exchange of goods and services through the use of standards, certification and related services to meet national and international needs.

For further information on CSA Group services, write to  
CSA Group  
178 Rexdale Boulevard  
Toronto, Ontario, M9W 1R3  
Canada



A National Standard of Canada is a standard developed by a Standards Council of Canada (SCC) accredited Standards Development Organization, in compliance with requirements and guidance set out by SCC. More information on National Standards of Canada can be found at [www.scc.ca](http://www.scc.ca).

SCC is a Crown corporation within the portfolio of Innovation, Science and Economic Development (ISED) Canada. With the goal of enhancing Canada's economic competitiveness and social well-being, SCC leads and facilitates the development and use of national and international standards. SCC also coordinates Canadian participation in standards development, and identifies strategies to advance Canadian standardization efforts.

Accreditation services are provided by SCC to various customers, including product certifiers, testing laboratories, and standards development organizations. A list of SCC programs and accredited bodies is publicly available at [www.scc.ca](http://www.scc.ca).

Standards Council of Canada  
600-55 Metcalfe Street  
Ottawa, Ontario, K1P 6L5  
Canada



**Standards Council of Canada**  
**Conseil canadien des normes**

Cette Norme Nationale du Canada n'est disponible qu'en anglais.

*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 to judge its suitability for their particular purpose.*

*\*A trademark of the Canadian Standards Association, operating as “CSA Group”*

# *National Standard of Canada*

## *CSA 0325:21 Construction sheathing (NIST PS 2-18, MOD)*



*®A trademark of the Canadian Standards Association,  
operating as "CSA Group."*



*Published in February 2021 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/](http://www.csagroup.org/store/)  
or call toll-free 1-800-463-6727 or 416-747-4044.*

*ICS 79.060.01  
ISBN 978-1-4883-3440-5*

*© 2021 Canadian Standards Association  
All rights reserved. No part of this publication may be reproduced in any form whatsoever  
without the prior permission of the publisher.*

# CSA 0325:21

## Construction sheathing

### (NIST PS 2-18, MOD)

## CSA Preface

This is the third edition of CSA 0325, *Construction sheathing*, which is an adoption, with Canadian deviations, of the NIST (National Institute of Standards and Technology) Voluntary Product Standard PS 2-18, *Performance Standard for Wood Structural Panels* (March 2019). It supersedes the previous edition published in 2016 as CSA 0325 (adopted NIST PS 2-10).

The CSA Technical Committee on Wood-Based Panel Products believes that this adoption provides a suitable standard for Canadian manufacturers, engineers, building officials, and consumers. This CSA Group Standard provides requirements for Canadian applications in its Canadian deviations. In addition, by adopting NIST PS 2, with clearly identified Canadian deviations, the Committee has moved to minimize market confusion regarding a number of subtle differences between the documents.

This Standard is a performance-based standard. It was prepared to provide an alternative means of specifying wood structural panel products for selected applications in wood-frame construction. Rather than prescribing panel makeup, this Standard establishes the minimum physical, bond durability, and structural performance criteria appropriate for floor, wall, and roof sheathing in light frame construction. Minimum load-carrying capacity and maximum deflection levels at specified loads are established at standard framing member spacings of 400, 500, and 600 mm (16, 20, and 24 in), and for some applications at spacings of 800, 1000, and 1200 mm (32, 40, and 48 in). The marking system used in this Standard identifies the recommended use of products and the maximum framing member spacing at standard loads. The span mark corresponds to the recommended maximum spacing expressed in inches.

Technical differences between this Standard and NIST PS 2 are clearly listed as Canadian deviations. Unless otherwise specified in the Canadian deviations, the requirements of NIST PS 2 apply. In the opinion of the Technical Committee, these differences reflect considerations necessary to satisfy building code assumptions and do not represent discrepancies in required technical characteristics.

This Standard does not include engineering design values for construction sheathing, nor does it suggest methods for calculating such values. For information about design values for construction sheathing, consult CSA O87 *Engineering design in wood*.

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

This Standard was reviewed for Canadian adoption by the CSA Technical Committee on Wood-Based Panels, under the jurisdiction of the CSA Strategic Steering Committee on Construction and Civil Infrastructure, and has been formally approved by the Technical Committee.

This Standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

© 2021 Canadian Standards Association

All rights reserved. No part of this publication may be reproduced in any form whatsoever without the prior permission of the publisher. NIST material is reprinted with permission.

Inquiries regarding this National Standard of Canada should be addressed to  
CSA Group

178 Rexdale Boulevard, Toronto, Ontario, Canada M9W 1R3

1-800-463-6727 • 416-747-4000

[www.csagroup.org](http://www.csagroup.org)

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

This Standard is subject to review within five years from the date of publication, and 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](mailto: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.

## CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1. SCOPE .....	1
2. TERMINOLOGY .....	1
3. REFERENCE PUBLICATIONS .....	4
4. CLASSIFICATION .....	4
5. REQUIREMENTS.....	5
6. QUALIFICATION TESTING AND MILL SPECIFICATION .....	13
7. TEST METHODS .....	19
8. TRADEMARKING AND CERTIFICATION .....	35
9. EFFECTIVE DATE AND IDENTIFICATION .....	36
10. STANDING COMMITTEE .....	37
APPENDIX A. REINSPECTION PRACTICES .....	38
APPENDIX B. QUALIFICATION FLOWCHART .....	41
APPENDIX C. HISTORY OF CHANGES .....	42
APPENDIX D. RECOMMENDED THICKNESS LABELS .....	45
APPENDIX E. LABELING GUIDELINES .....	46
APPENDIX F. FORMALIN HYDE .....	47

## VOLUNTARY PRODUCT STANDARD PS 2-18

### PERFORMANCE STANDARD FOR WOOD STRUCTURAL PANELS

Initially Approved as PS 2-92 August 27, 1992 (See Appendix C)

This Revision Approved March 30, 2019

(This standard, initiated by APA – *The Engineered Wood Association*, has been developed under the Procedures for the Development of Voluntary Product Standards for the U.S. Department of Commerce.)

#### 1 SCOPE

- 1.1 This Voluntary Product Standard primarily establishes structural criteria for assessing the acceptability of wood structural panels for construction sheathing and single floor applications and provides a basis for common understanding among the producers, distributors, and the users of these products. The standard does not address non-structural issues such as resistance to biological agents. Applications other than construction sheathing and single floor may require additional engineering considerations that are not covered by this document.
- 1.2 This standard covers the performance requirements, adhesive bond performance, panel construction and workmanship, dimensions and tolerances, marking, and moisture content of wood structural panels.
- 1.3 This standard includes test methods to determine compliance and a glossary of trade terms and definitions. A quality certification program is provided whereby qualified testing agencies inspect, sample, and test products for qualification under this standard. Information regarding industry practices for reinspection is provided in Appendix A. A flowchart depicting the qualification process is provided in Appendix B. Information on the maintenance, history, and current edition of the standard is provided in Appendix C. Recommended thickness labeling is provided in Appendix D. Information on labeling regulations from NIST Handbook 130 and Handbook 133 are provided in Appendix E. Information on formaldehyde emissions is provided in Appendix F.
- 1.4 This standard incorporates the International System of Units (SI) as well as customary units of measurement. The values given in SI units are the standard. The values given in parentheses are for information only. In conversion of customary units where exact placement is not an issue, such as nail spacing, approximate conversions to SI units are made to yield more easily recognizable numbers. In critical matters, such as panel thickness, exact conversions to SI units are made. For nominal customary units, actual dimensions in SI units are given.
- 1.5 Advisory notes in this standard shall not be considered mandatory.

#### 2 TERMINOLOGY

##### 2.1 Composite panel

any panel containing a combination of veneer and other wood-based material.

##### 2.2 Delamination

For plywood or composite panels, delamination is a visible separation between plies or layers that normally receive adhesive at their interface and are firmly contacted in the pressing operation. Wood characteristics, such as checking, leafing, splitting, and broken grain, are not to be construed as delamination.