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# NATIONAL DESIGN SPECIFICATION® for Wood Construction with Commentary







#### **Updates and Errata**

While every precaution has been taken to ensure the accuracy of this document, errors may have occurred during development. Updates or Errata are posted to the American Wood Council website at www.awc.org. Technical inquiries may be addressed to info@awc.org.

On behalf of the industry it represents, AWC is committed to ensuring a resilient, safe, and sustainable built environment. To achieve these objectives, AWC contributes to the development of sound public policies, codes, and regulations which allow for the appropriate and responsible manufacture and use of wood products. We support the utilization of wood products by developing and disseminating consensus standards, comprehensive technical guidelines, and tools for wood design and construction, as well as providing education regarding their application.



# R D S

# NATIONAL DESIGN SPECIFICATION® for Wood Construction







#### National Design Specification (NDS) for Wood Construction with Commentary 2018 Edition

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#### FOREWORD

The National Design Specification<sup>®</sup> for Wood Construction (NDS<sup>®</sup>) was first issued by the National Lumber Manufacturers Association (now the American Wood Council) (AWC) in 1944, under the title National Design Specification for Stress-Grade Lumber and Its Fastenings. By 1971, the scope of the Specification had broadened to include additional wood products. In 1977, the title was changed to reflect the new nature of the Specification, and the content was rearranged to simplify its use. The 1991 edition was reorganized in an easier to use "equation format", and many sections were rewritten to provide greater clarity.

In 1992, the American Forest & Paper Association (AF&PA) – formerly the National Forest Products Association – was accredited as a canvass sponsor by the American National Standards Institute (ANSI). The Specification subsequently gained approval as an American National Standard designated ANSI/NF<sub>o</sub>PA NDS-1991 with an approval date of October 16, 1992.

In 2010, AWC was separately incorporated, rechartered, and accredited by ANSI as a standards developing organization. The current edition of the Standard is designated ANSI/AWC NDS-2018 with an approval date of November 16, 2017.

In developing the provisions of this Specification, the most reliable data available from laboratory tests and experience with structures in service have been carefully analyzed and evaluated for the purpose of providing, in convenient form, a national standard of practice.

It is intended that this Specification be used in conjunction with competent engineering design, accurate fabrication, and adequate supervision of construction. Particular attention is directed to Section 2.1.2, relating to the designer's responsibility to make adjustments for particular end uses of structures.

Since the first edition of the *NDS* in 1944, the Association's Technical Advisory Committee has continued to study and evaluate new data and developments in wood design. Subsequent editions of the Specification have included appropriate revisions to provide for use of such new information. This edition incorporates numerous changes considered by AWC's ANSI-accredited Wood Design Standards Committee. The contributions of members of this Committee to improvement of the Specification as a national design standard for wood construction are especially recognized.

Acknowledgement is also made to the Forest Products Laboratory, U.S. Department of Agriculture, for data and publications generously made available, and to the engineers, scientists, and other users who have suggested changes in the content of the Specification. AWC invites and welcomes comments, inquiries, suggestions, and new data relative to the provisions of this document.

It is intended that this document be used in conjunction with competent engineering design, accurate fabrication, and adequate supervision of construction. AWC does not assume any responsibility for errors or omissions in the document, nor for engineering designs, plans, or construction prepared from it.

Those using this standard assume all liability arising from its use. The design of engineered structures is within the scope of expertise of licensed engineers, architects, or other licensed professionals for applications to a particular structure.

American Wood Council



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