AWI Standards

Materials
DISCLAIMER

The information provided by the Architectural Woodwork Institute (“AWI”) in this document is intended solely for use by appropriately licensed and experienced professionals who have the necessary background to understand and interpret the information in accordance with generally accepted professional standards and regulations. AWI Standards provide the minimum criteria for the concept, design, fabrication, finishing, and installation of architectural woodwork. Provisions for mechanical and electrical safety are not included. References to life-safety requirements may be included but are not meant to be comprehensive. Improper application of the standards set forth herein may result in hazards to health and safety of installers, consumers, and others.

Wood products installed outside of climate controlled, interior environments are not governed by this standard.

Illustrations are intended to assist in understanding the standard and may not include all requirements for a specific product or unit, nor do they show the only method of fabrication. Such partial drawings shall not be used to justify improper or incomplete design and/or construction.

The Supplemental Materials are provided as an additional resource to the manufacturer, design professional, educator, user, or certifying organization.

This standard may include citations and quotes from other industry standards and guidelines that are neither developed nor published by AWI, which makes no representation as to the quality or efficacy of such other standards or guidelines.

AWI publishes the information provided in this document after undertaking reasonable inquiry regarding the subject matter. AWI publishes this standard in furtherance of its mission of benefiting the architectural woodwork industry. All or any portion of this standard may be revised or withdrawn at any time. AWI standards are voluntary. AWI is not responsible for any results of use of this standard or performance of products used or created in connection with this standard. AWI makes no representation or warranty regarding the technical accuracy or sufficiency of the standard; nor does AWI represent or warrant that the standard conforms to any statute or regulation. AWI hereby disclaims any warranty of any kind, express or implied, with respect to the information contained herein, including merchantability or fitness for a particular purpose.

AWI shall not be responsible to anyone for the use of or reliance upon this standard. AWI shall not incur any obligation nor liability for damages, including consequential damages, arising out of or in connection with the use, interpretation of, or reliance upon this standard, except for the refund of any amount paid to AWI for this document by the affected user.

Copyright © 2018 by Architectural Woodwork Institute—All rights reserved.

No part of this publication may be reprinted or reproduced in any form without the prior written consent of the Architectural Woodwork Institute.

Additional Information and updates for AWI Standards are posted at:

www.gotoawi.com/standards
# Table of Contents

1.0 Purpose .........................................................................................................................1

2.0 Scope ..............................................................................................................................2

3.0 Requirements ..................................................................................................................3

   3.1 General ..........................................................................................................................3

   3.1.1 Measurements .........................................................................................................3

   3.1.2 Lumber and Veneer Specified as Natural ...............................................................3

   3.2 Lumber ..........................................................................................................................3

      3.2.1 Lumber Grading ....................................................................................................3

      3.2.2 Moisture Content of Lumber ................................................................................3

      3.2.3 Lumber for Exterior Use ......................................................................................4

      3.2.4 Methods of Sawing .............................................................................................4

      3.2.5 Filling of Natural Characteristics .........................................................................4

      3.2.6 Unlisted Species Rules .......................................................................................4

      3.2.7 Adhesive Requirements .....................................................................................4

      3.2.8 Dimensional Requirements ................................................................................4

      3.2.9 Special Characteristics .......................................................................................5

      3.2.10 Hardwood Requirements ..................................................................................6

      3.2.11 Softwood Materials .........................................................................................10

      3.2.12 Reclaimed/Reconstituted Timber and Lumber Products ..................................13

      3.2.13 Cathedral-Type Figure .....................................................................................13

   3.3 Panel Products ..............................................................................................................13

      3.3.1 Reference Standards .......................................................................................14

      3.3.2 Cores ................................................................................................................14

      3.3.3 Surfaces ............................................................................................................14

      3.3.4 Other Materials ...............................................................................................16

4.0 Figures / Illustrations ....................................................................................................18

   Figure 2 - Plain-Sawn Lumber ......................................................................................18

   Figure 3 - Quarter-Sawn Lumber ..................................................................................18

   Figure 4 - Rift-Sawn Lumber .........................................................................................18

   Figure 65 - Lumber Dimensions ...................................................................................19

   Figure 66 - Gluing for Width ..........................................................................................19

   Figure 67 - Gluing for Thickness ....................................................................................19

5.0 Supplemental Information ............................................................................................20

   5.1 Glossary ....................................................................................................................20
Foreword
(This foreword is not a part of AWI 300-2018 - Materials)

The AWI 300 - Materials Standard is intended to provide requirements pertaining to lumber, panel cores, and panel surfaces as well as other related materials specified, such as solid surface, engineered stone, and/or solid phenolic.

This standard is intended for use by individuals and organizations from all aspects of the architectural woodwork industry, including architects, design professionals, manufacturer/suppliers, contractors, installers, and end users. Individuals within the architectural woodwork industry will use this standard to maintain a high degree of control over the aesthetic quality and the structural integrity of their work, ensuring that potential differentiations in the workmanship and implementation of architectural woodwork projects are made uniform.

The requirements contained within this standard are derived from AWI’s Architectural Woodwork Standards that the organization has been publishing in various formats since its inception in 1953. Each requirement has been thoroughly vetted by a committee of leading volunteer professionals in the architectural woodwork industry to ensure that the content is up-to-date and relevant to the current industry requirements.

Effective March 15, 2019, this standard succeeds, replaces, and supplants Section 3 and Section 4 of the Architectural Woodwork Standards, Ed. 2 (2014) as the most current version of the AWI Standard for Lumber, Sheet Products, and/or Materials.

Suggestions for the improvement of this standard will be welcome. Suggestions should be sent to:

Architectural Woodwork Institute
46179 Westlake Drive, Suite 120
Potomac Falls, VA 20165

This standard was developed by AWI Professional Staff and the AWI Technical Committee and was approved for publication by the AWI Technical Committee. Committee approval of the standard does not necessarily imply that all committee members voted for its approval.

AWI Technical Committee
Randy Jensen, Committee Chair
Cory Bittner
Michael McNulty
Patrick Molzahn
William Munyan
Greg Parham

AWI Standards Development
Philip Duvic, Executive Vice President
Ashley Goodin, Technical Director
Cheryl Dermyre, Technical Project Manager
Michael Murray, Technical Editor
Jairus Whitley, Graphic Designer
1.0 Purpose

a) These requirements are intended to provide a well-defined degree of control over a project’s quality of materials and workmanship in Architectural Woodwork and related interior finishes (henceforth referred to as “Product”).

b) The majority of architectural woodwork and casework is fabricated from lumber or wood-based core materials. The selection of the proper wood species and sheet products contributes to the appearance and performance of the completed project. Intended use, cost, hardness, and relative stability are among many important considerations. Once the material is chosen, its effectiveness may vary by the manner in which it is manufactured and installed.
2.0 Scope

a) Requirements pertaining to lumber, panel cores, and panel surfaces as well as other related materials specified, such as solid surface, engineered stone, and solid phenolic, are contained within this standard.
3.0 Requirements

3.1 General

a) Aesthetic grade rules (premium, custom & economy) are used within AWI standards only in reference to the acceptable quality of workmanship, material, or installation in a completed Product and apply only to exposed and semi-exposed surfaces which remain visible after installation.

b) Visible surfaces of lumber shall be sound, free of decay, shake, pith, wane, and warp. Lumber shall be plain-sawn unless specified otherwise.

c) Where conflicts exist within AWI Standards, the least restrictive requirement shall prevail.

d) The following requirements shall be met unless a project’s contract documents indicate otherwise.

e) Species not covered by this standard shall be as agreed to between owner/design professional and manufacturer/supplier as to length requirements and size/exposed area of permitted natural characteristics.

3.1.1 Measurements

a) This standard is written with the metric system of measurement followed by the U.S. Customary System of measurement in brackets.

b) The system of measurement used in the project’s original contract documents and architectural drawings will dictate which system of measurement within this standard is used for verification of compliance.

c) The U.S. Customary measurement is typically a “soft” conversion of the metric measurement. In order to make the metric number more conceptually coherent and consistent, most conversions for less than 152.4 mm [6"] in dimension are “soft” converted to the nearest 0.1 mm. For measurements above 152.4 mm [6"], the “soft” value is converted to the nearest 1 mm.

d) Where conflicts exist within this standard, the least restrictive requirement shall prevail.

3.1.2 Lumber and Veneer Specified as Natural

a) Natural, as a type of wood species selection, permits unlimited heartwood and/or sapwood within a face. Special requirements shall be so specified.

3.2 Lumber

3.2.1 Lumber Grading

a) Lumber Association rules shall not be used, since even their highest grades permit defects unacceptable in Product and are not based upon the use of the whole board but, rather on a percentage of the board. Lumber rules in this standard apply only to wood surfaces visible after manufacture and installation.

b) Lumber grade rules in this standard apply to boards exceeding 6.4 mm [.250"] in thickness.

3.2.2 Moisture Content of Lumber

a) Shall be in compliance with AWI 200 Care & Storage Standard.
For a complete AWS document, including compliance requirements, product information and more, contact us.