ANSI O5.1-2015

Wood Poles:
Specifications and Dimensions

AMERICAN NATIONAL STANDARD FOR WOOD UTILITY PRODUCTS

Accredited Standards Committee O5 was first organized in 1924 by the Bell Telephone System and the U.S. Independent Telephone Association's American Standards Association (ASA) Telephone Group. The Exchange Carrier Standards Association (ECSA), which later became the Alliance for Telecommunications Industry Solutions (ATIS), accepted sponsorship and Secretariat responsibility for ASC O5 in 1985. The American Wood Protection Association (AWPA) then assumed the role of Secretariat, effective January 1, 2011. ASC O5 is jointly accredited with its Secretariat by the American National Standards Institute. This committee develops standards for wood poles, crossarms, braces, and glue laminated timber for utility structures. For more information, visit the ASC O5 website at **www.asco5.org**.

Founded in 1904, the American Wood Protection Association (AWPA) is a non-profit organization that promulgates voluntary standards for technologies which protect wood from degradation. AWPA Standards are developed by its technical committees in an open, consensus-based process that involves individuals from all facets of wood preservation: Producers of preservatives and preservative components; producers of treated and untreated wood products; end users of treated wood; engineers, architects and building code officials; government entities, academia, and other groups with a general interest in wood preservation. AWPA's Standards are universally specified for wood protection in the USA, and are recognized worldwide. For more information visit the AWPA website at **www.awpa.com**.

AMERICAN NATIONAL STANDARD

Approval of an American National Standard requires review by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer.

Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made towards their resolution.

The use of American National Standards is completely voluntary; their existence does not in any respect preclude anyone, whether he has approved the standards or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards.

The American National Standards Institute does not develop standards and will in no circumstances give an interpretation of any American National Standard. Moreover, no person shall have the right or authority to issue an interpretation of an American National Standard in the name of the American National Standards Institute. Requests for interpretations should be addressed to the secretariat or sponsor whose name appears on the title page of this standard.

CAUTION NOTICE: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken periodically to reaffirm, revise, or withdraw this standard. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute.

Notice of Disclaimer & Limitation of Liability: The information provided in this document is directed solely to professionals who have the appropriate degree of experience to understand and interpret its contents in accordance with generally accepted engineering or other professional standards and applicable regulations. No recommendation as to products or vendors is made or should be implied.

NO REPRESENTATION OR WARRANTY IS MADE THAT THE INFORMATION IS TECHNICALLY ACCURATE OR SUFFICIENT OR CONFORMS TO ANY STATUTE, GOVERNMENTAL RULE OR REGULATION, AND FURTHER, NO REPRESENTATION OR WARRANTY IS MADE OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS. AWPA SHALL NOT BE LIABLE, BEYOND THE AMOUNT OF ANY SUM RECEIVED AS PAYMENT FOR THIS DOCUMENT, WITH RESPECT TO ANY CLAIM, AND IN NO EVENT SHALL AWPA BE LIABLE FOR LOST PROFITS OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES. AWPA EXPRESSLY ADVISES ANY AND ALL USE OF OR RELIANCE UPON THIS INFORMATION PROVIDED IN THIS DOCUMENT IS AT THE RISK OF THE USER.

NOTE - The user's attention is called to the possibility that compliance with this standard may require use of an invention covered by patent rights. By publication of this standard, no position is taken with respect to whether use of an invention covered by patent rights will be required, and if any such use is required no position is taken regarding the validity of this claim or any patent rights in connection therewith.

ANSI O5.1-2015, Wood Poles: Specifications and Dimensions

is an American National Standard developed by **ASC O5 – Wood Utility Products.**

Published by
American Wood Protection Association
P.O. Box 36174
Birmingham, AL 35236

Printed in the United States of America.

ANSI O5.1.2015

American National Standard for Wood Utility Products

Wood Poles: Specifications and Dimensions

Secretariat
American Wood Protection Association, Inc.

Approved January 9, 2015
American National Standards Institute, Inc.

Foreword

This American National Standard establishes specifications and dimensions for wood utility poles that are to be given preservative treatment as specified by the purchaser. The poles described are considered as simple cantilever members subject to transverse loads only. Requirements for the preservative treatment of poles are not included although the effects of conditioning are accounted for.

This standard was developed by Accredited Standards Committee O5 – Wood Utility Products (ASC O5) under the procedural administration of the American Wood Protection Association (AWPA). ASC O5 was organized in December 1924 and has produced revisions of this standard from time to time as required or deemed beneficial. This standard supersedes American National Standard ANSI O5.1-2008.

Suggestions for improvement of this standard will be welcomed. They should be sent to ASC O5 through its Secretariat: American Wood Protection Association, P.O. Box 361784, Birmingham, AL 35236 <www.awpa.com>.

This standard was processed and approved for submittal to ANSI by ASC O5. Committee approval of this standard does not necessarily imply that all committee members voted for its approval. At the time it processed and approved this standard, ASC O5 had the following leadership and members:

Nelson. Bingel, ASC O5 Chair
David. D'Hooge, ASC O5 Vice-Chair
Colin McCown, ASC O5 Executive Secretary and Editor

Organization Represented	Name of Representative
A.W Williams Inspection Company	Edward Williams, Jr. Edward Williams, Sr. (Alt.)
Alabama Power Company	Alan Blankenship
Alamco Wood Products, LLC	Todd Brown
American Transmission Company	Bob Kluge Justin Kavanaugh (Alt.)
APA – The Engineered Wood Association	B.J. Yeh
Arch Wood Protection	Tim Carey Will Cox (Alt.)
Bell Lumber & Pole Company	Jim Fixsen Brett Franks (Alt.)
Brooks Manufacturing Company	Shannon Terrell Dwayne Carter (Alt.)
CenturyLink	Mike Fargano Joe Fife (Alt.)
ComEd	David D'Hooge
Cox Industries	Jim Healey Byron Altman (Alt.)
Dis-Tran Wood Products, LLC	Pat Bordelon Jerry George (Alt.)
EDM International	Rob Nelson Andy Stewart (Alt.)
Hughes Brothers, Inc.	Larry Vandergriend
Intec Services, Inc.	Andy Kudick
Laminated Wood Systems, Inc.	Bob Reisdorff
Langdale Forest Products Company	Jim Hickman Eric Nall (Alt.)
Lufkin Creosoting Company	David Vines
McFarland Cascade, A Stella-Jones Co.	Kyle Cassidy Bob Baeppler (Alt.)
McIntyre Associates, Inc.	Craig McIntyre
Minnesota Power	Reed Rosandich
Mississippi State University	Mike Barnes

Organization Represented	Name of Representative
National Rural Electric Cooperatives Association	Jim Carter Nick Klein (Alt.)
North American Wood Pole Council	Martin Rollins Kevin Ragon (Alt.)
Oregon State University	Jeff Morrell
Osmose Utilities Services, Inc.	Nelson Bingel
Outside Plant Consulting Services, Inc.	Larry Slavin
Power Line Systems, Inc.	Otto Lynch Brandon Grillon (Alt.)
Public Service New Mexico	Norm Sedillo
Rocky Mountain Pole & Treating Assn.	Dean Rogers
Rogers International Consulting, Inc.	J.R. Gonzalez Michael Marohn (Alt.)
Rural Utilities Service	Wilson Johnson Bob Lash (Alt.)
Southern California Edison	Brian Flynn
Southern Pressure Treaters Association	Joey Wheat Phil Myers (Alt.)
State University of New York	Bill Smith Bob Meyer (Alt.)
T.R. Miller Mill Company	Ron Cauley
Telcordia (Ericsson)	Trevor Bowmer
Thomasson Company	Randy Deweese Brent Gray (Alt.)
Timber Products Inspection	Mike Dilbeck
University of Minnesota	Jerry Winandy
Utilimap Corporation	Greg Samaniego
VPC Energy, Inc.	Art Peralta
Western Area Power Administration	Gerald Paulson Karen Rowe (Alt.)
Western Wood Preservers Institute	Robert West Dallin Brooks (Alt.)
Wood Preservation Canada	Henry Walthert Craig Frohlich (Alt.)

Table of Contents

Table of Figures

Table of Tables

American National Standard for Wood Utility Products –

Wood Poles: Specifications & Dimensions

1 Scope & general requirements

1.1 Scope

This standard provides minimum specifications for the quality and dimensions of wood poles that are to be used as single-pole utility structures. The poles described herein are considered as simple cantilever members subject to transverse loads only. Fiber strength values, provided as a basis for determining pole class sizes, apply only to poles that meet or exceed the minimum quality specifications.

Requirements for the preservative treatment of poles are outside the scope of this standard. However, where such treatment or conditioning may affect strength, limitations are provided in section 5.1.2. [Also see standards such as those published by American Wood Protection Association (AWPA) and ASTM International (ASTM)].

1.2 General requirements

The species, the length, and class of poles; the type of treatment (including seasoning details, if seasoning is desired); aids to penetration such as incising, groundline boring, or kerfing; and complete details for roofing, gaining, boring, and branding not included in this standard shall be given in purchase orders.

Complete detailed instructions shall be given to the supplier whenever the requirements of this standard are modified to meet special conditions.

2 Normative references

The standards listed below contain provisions which, through reference in this text, constitute provisions of this American National Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision; therefore users of this standard are encouraged to investigate the possibility of applying the most recent editions of the standards.

ASC C2-2007, *National electrical safety code*.[1]

AWPA Standard M6-07, *Brands used on forest products*.[2]

ASTM D9-05, *Standard terminology relating to wood*.[3]

Wood Preservation Statistics, *Forest Service, U.S. Department of Agriculture, 1973.*[4]

3 Definitions

The following definitions shall apply to the terms used in this standard. Photographs depicting many of these terms may be found in Technical Report O5-TR-01, the Photographic Manual of Wood Pole Characteristics, which is based on this Standard.

---

[1] Available from www.ieee.org

[2] Available from www.awpa.com

[3] Available from www.astm.org

[4] Available from the U.S. Government Printing Office, Washington, DC 20402.