



ANSI C81.61-2016

American National
Standard for
Electric Lamp
Bases—
Specifications for
Bases (Caps) for
Electric Lamps





ANSI C81.61-2016

*American National Standard for
Electric Lamp Bases—
Specifications for Bases (Caps) for Electric Lamps*

Secretariat:

National Electrical Manufacturers Association

Approved: April 20, 2016

American National Standards Institute, Inc.

NOTICE AND DISCLAIMER

The information in this publication was considered technically sound by the consensus of persons engaged in the development and approval of the document at the time it was developed. Consensus does not necessarily mean that there is unanimous agreement among every person participating in the development of this document.

American National Standards Institute, Inc. (ANSI) standards and guideline publications, of which the document contained herein is one, are developed through a voluntary consensus standards development process. This process brings together volunteers and/or seeks out the views of persons who have an interest in the topic covered by this publication. While NEMA administers the process to promote fairness in the development of consensus, it does not write the document and it does not independently test, evaluate, or verify the accuracy or completeness of any information or the soundness of any judgments contained in its standards and guideline publications.

NEMA disclaims liability for any personal injury, property, or other damages of any nature whatsoever, whether special, indirect, consequential, or compensatory, directly or indirectly resulting from the publication, use of, application, or reliance on this document. NEMA disclaims and makes no guaranty or warranty, expressed or implied, as to the accuracy or completeness of any information published herein, and disclaims and makes no warranty that the information in this document will fulfill any particular purposes or needs. NEMA does not undertake to guarantee the performance of any individual manufacturer or seller's products or services by virtue of this standard or guide.

In publishing and making this document available, NEMA is not undertaking to render professional or other services for or on behalf of any person or entity, nor is NEMA undertaking to perform any duty owed by any person or entity to someone else. Anyone using this document should rely on his or her own independent judgment or, as appropriate, seek the advice of a competent professional in determining the exercise of reasonable care in any given circumstances. Information and other standards on the topic covered by this publication may be available from other sources, which the user may wish to consult for additional views or information not covered by this publication.

NEMA has no power, nor does it undertake to police or enforce compliance with the contents of this document. NEMA does not certify, test, or inspect products, designs, or installations for safety or health purposes. Any certification or other statement of compliance with any health- or safety-related information in this document shall not be attributable to NEMA and is solely the responsibility of the certifier or maker of the statement.

American National Standard

Approval of an American National Standard requires verification by the American National Standards Institute, Inc. (ANSI) that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer. An American National Standard implies a consensus of those substantially concerned with its scope and provisions. 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 toward their resolution.

The existence of an American National Standard does not in any respect preclude anyone, whether s/he has approved the standard or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards. It is intended as a guide to aid the manufacturer, the consumer, and the general public.

The American National Standards Institute, Inc., 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, Inc. Requests for interpretations should be addressed to the Committee Secretariat referred to on the title page.

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

Published by

**National Electrical Manufacturers Association
1300 North 17th Street, Suite 900, Rosslyn, Virginia 22209**

© 2016 National Electrical Manufacturers Association. All rights, including translation into other languages, reserved under the Universal Copyright Convention, the Berne Convention for the Protection of Literary and Artistic Works, and the International and Pan American copyright conventions.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without prior written permission of the publisher.

Printed in the United States of America

Foreword (This foreword is not part of American National Standard ANSI C81.61)

In 1990 and 1991 the American National Standards (ANS) for lamp bases, lampholders and gauges were split into three separate standards to correspond with the IEC format. ANSI C81.61, *ANS for Electric Lamp Bases*, paralleled IEC 60061-1; ANSI C81.62, *ANS for Lampholders for Electric Lamps*, paralleled IEC 60061-2; and ANSI C81.63, *Gauges for Electric Lamp Bases and Lampholders*, paralleled IEC 60061-3. Also a fourth standard, ANSI C81.64, *Guidelines for Electrical Lamp Bases, Lampholders and Gauges*, was published to parallel IEC 60061-4 in 1993.

In 1996 the first IEC data sheets were adopted “as is” as Nationally Acknowledged International Standards and published as Supplement g to the existing C81.61, 62 and 63 standards. Now many more (if not most) ANSI base standard sheets are IEC sheets adopted as ANSI standards.

In 2003 a revision and consolidation of ANSI C81.61 was issued to include, first, a reference to all IEC base (cap) standard sheets adopted as ANSI standards. Second, standard sheets for a small number of bases used mainly in North America or not harmonized with IEC are found in Part II. Part III contained any United States deviations to the IEC standard sheets, which had been adopted as Nationally Acknowledged International Standards as published in IEC 60061-1. Part IV contained an informative annex on first versus third angle projection and related standards.

CONTENTS

Foreword ii

PART I—General Information and Requirements..... 1

1 Scope 1

2 Normative References 1

3 General Information 1

PART II—ANSI Standard Sheets for Bases (Caps) for Electric Lamps..... 7

PART III—United States Deviations to IEC Harmonized Electric Lamp Base Standard Sheets..... 94

PART IV—Annexes..... 95

 Annex A Contrast of Projection Methods on Engineering Drawings..... 95

 Annex B Related Standards..... 96

< This page intentionally left blank. >

PART I General Information and Requirements

1 Scope

This standard sets forth the specifications for bases (caps) used on electric lamps.

1.1 Important Patent Disclaimer

At the time of publication, it is possible that some of the elements of this document may be the subject of patent rights. When this standard was approved for publication, the National Electrical Manufacturers Association (NEMA) did not know of any patent applications, patents pending, or existing patents. NEMA shall not be held responsible for identifying any or all such patent rights.

2 Normative References

The following publications 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, and parties to agreements based on this American National Standard are encouraged to investigate the possibility of applying the most recent editions of the publications indicated below.

ANSI C81.62-2009 (R2014)	<i>Lampholders for Electric Lamps</i>
ANSI C81.63-2009 (R2014)	<i>Gauges for Bases (Caps) and Lampholders for Electric Lamps</i>
IEC 60061	<i>Lamp caps and holders together with gauges for the control of interchangeability and safety</i> <i>Part 1: Caps IEC 60061-1 Ed. 3 including Amendment 39-2007</i> <i>Part 2: Lampholders IEC 60061-2 Ed. 3 including Amendment 36-2007</i> <i>Part 3: Gauges IEC 60061-3 Ed. 3 including Amendment 38-2007</i>

3 General Information

Two types of base standard sheets are identified in this standard, and both are listed in Table 1, *ANSI and IEC Lamp Base Standard Sheets*. All base types are listed in color to indicate their typical applications: blue for automotive and miniature; green for general lighting service, including common Edison screw base; red for fluorescent; and black for miscellaneous, including specialty, photo, projection, and studio stage applications.

For some bases, either no international standard exists or the international standard is not acceptable at this time. For such bases an ANSI standard sheet is included. These standard sheets are identified in Table 1, "ANSI and IEC Lamp Base Standard Sheets" under the column heading "ANSI C81.61-2016." These standard sheets are found in Part I.

Certain standard sheets from International Electrotechnical Commission (IEC) standard 60061-1, *Lamp caps and holders together with gauges for the control of the interchangeability and safety Part 1: Lamp caps*, and its supplements, have been adopted as Nationally Acknowledged International Standards and constitute part of the *American National Standard for Lamp Bases (Caps)*. The standard sheets for these bases are not included but are identified in Table I, "ANSI and IEC Lamp Base Standard Sheets," under the column heading "IEC 60061-1." If there are any U.S. deviations from these standard sheets, the sheet number is marked with a footnote and the deviations are found in Part III.