NEMA Standards Publication

ANSI C18.3M, Part 1-2013

American National Standard for Portable Lithium Primary Cells and Batteries - General and Specifications

National Electrical Manufacturers Association

ANSI C18.3M, Part 1-2013
Revision of
ANSI C18.3M, Part 1-2008

American National Standard

For Portable Lithium Primary Cells and Batteries— General and Specifications

Secretariat:

National Electrical Manufacturers Association

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Foreword

(This Foreword is not part of American National Standard C18.3M, Part 1-2013.)

This edition of an American National Standard for Portable Lithium Primary Cells and Batteries is based in part on the previous American National Standard for Lithium Primary Cells and Batteries—General and Specifications, ANSI C18.3M, Part 1-2008, and recognizes the work of the International Electrotechnical Commission (refer to IEC Publications 60086-1 and 60086-2) in establishing world-wide standard requirements for portable lithium primary batteries. As with the previous edition, this edition includes the following chemistries:

Lithium/carbon monofluoride;
Lithium/manganese dioxide;
Lithium/iron disulfide.

After review, certain selected performance tests and dimensions were revised or added.

In April 1996, the then ANSI Accredited Standards Committee C18 on Specifications for Dry Cells and Batteries established a new general format for the publication of its standards, dividing this standard into two parts. Part 1 of this American National Standard for Portable Lithium Primary Cells and Batteries contains two basic sections. The first section has general requirements and information, such as the scope, applicable definitions, general descriptions of battery dimensions, terminal requirements, marking requirements, general design conditions, test conditions, etc. Section 2 of Part 1 is comprised of specification sheets for various types of cells and batteries. **Part 2 of the standard, a separate document, contains safety requirements.**

Suggestions for the improvement of this standard are welcome. They should be sent to the National Electrical Manufacturers Association, 1300 North 17th Street, Suite 1752, Rosslyn, VA 22209, Attention: Secretary ANSI ASC C18.

This standard was processed and approved for submittal to ANSI by the American National Standards Committee C18 on Portable Cells and Batteries. Committee approval of this standard does not necessarily imply that all committee members voted for its approval. At the time Committee C18 approved this standard, it had the following members:

Michael H. Babiak, Chairperson
Steven Wicelinski, Vice Chairperson
Andrei Moldoveanu, Secretary

Organization Represented:	*Name of Representative:*
BAE Systems	Andrew J. Markow
Bureau Veritas, Consumer Product Services	David Grandin
Duracell	Steven Wicelinski S. Keel Kelly (Alternate)
Eastman Kodak Company	James C. DeJager
Energizer Battery Manufacturing, Inc.	Michael H. Babiak Marcus K. Boolish (Alternate)
Fisher Price / Mattel	Douglas Golde

Intertek ETL SEMKO	Thomas O'Hara Rich Byczek (Alternate)
Kids II, Inc.	Robert Coughlin
Portable Power Consultants, LLC	Ramesh Shah
Panasonic Battery Corporation of America	Charles P. Monahan
Portable Power Consultants, LLC	Ramesh Shah
SGS North America	Jody Leber
Spectrum Brands, Inc.	John Hadley Denis Carpenter (Alternate)
UL LLC	Laurie Florence

The members of Subcommittee C18-3 for Portable Lithium Primary Cells and Batteries who contributed to the development of this standard are:

Marcus K. Boolish, Chairperson
Steven Wicelinski, Vice Chairperson
Andrei Moldoveanu, NEMA, Secretary

Michael Babiak
Rich Byczek
Denis Carpenter
Robert Coughlin
James DeJager
Laurie Florence
Douglas Golde
David Grandin
John Hadley
S. Keel Kelly
Jody Leber
Andrew Markow
Charles Monahan
Thomas O'Hara
Ramesh Shah

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AMERICAN NATIONAL STANDARD **ANSI C18.3M, PART 1-2013**

For Portable Lithium Primary Cells and Batteries— General and Specifications

1 General

NOTE—Part 1 does not include safety requirements. Safety requirements can be found in Part 2.

1.1 Scope and purpose

1.1.1 Scope

This standard applies to portable lithium primary cells and batteries. This edition includes the following electrochemical systems:

a) Lithium/carbon monofluoride;
b) Lithium/manganese dioxide, and
c) Lithium/iron disulfide.

1.1.2 Purpose

The purpose of this publication is to:

a) Ensure the electrical and physical interchangeability of products from different manufacturers;
b) Minimize proliferation of cell and battery types;
c) Define a standard of performance and provide guidance for its assessment, and
d) Provide guidance to consumers, manufacturers, and designers.

This is achieved by specifying items such as: nomenclature, dimensions, polarity, terminals, marking, test conditions, and procedures.

1.2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this American National Standard. Parties to agreements based on this American National Standard are encouraged to investigate the most recent editions of the standards indicated below.

ANSI/ASME Y14.5, *Dimensioning and tolerancing*

ANSI C18.3M, Part 2, *For Portable Lithium Primary Cells and Batteries--Safety Standard*

1.3 Definitions

1.3.1 anode: Electrode at which an electrochemical oxidation reaction occurs

1.3.2 application test: A test which simulates the actual use of a battery in a specific application.

1.3.3 battery: One or more cells, including case, terminals, and markings.