Primary batteries - Part 1: General

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 60086-1:2021 sisaldab Euroopa standardi EN IEC 60086-1:2021 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 60086-1:2021 consists of the English text of the European standard EN IEC 60086-1:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 11.06.2021.	Date of Availability of the European standard is 11.06.2021.
Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 29.220.10

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 60086-1

June 2021

ICS 29.220.10

Supersedes EN 60086-1:2015 and all of its amendments and corrigenda (if any)

English Version

Primary batteries - Part 1: General (IEC 60086-1:2021)

Piles électriques - Partie 1: Généralités
(IEC 60086-1:2021)

Primärbatterien - Teil 1: Allgemeines
(IEC 60086-1:2021)

This European Standard was approved by CENELEC on 2021-06-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN IEC 60086-1:2021 E

European foreword

The text of document 35/1465/FDIS, future edition 13 of IEC 60086-1, prepared by IEC/TC 35 "Primary cells and batteries" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60086-1:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2022-03-01
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-06-01

This document supersedes EN 60086-1:2015 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 60086-1:2021 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60086-6 NOTE Harmonized as EN IEC 60086-6

IEC 62281 NOTE Harmonized as EN IEC 62281

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60086-2	2015	Primary batteries - Part 2: Physical and electrical specifications	EN 60086-2	2016
IEC 60086-3	-	Primary batteries - Part 3: Watch batteries	EN IEC 60086-3	-
IEC 60086-4	-	Primary batteries - Part 4: Safety of lithium batteries	EN IEC 60086-4	-
IEC 60086-5	-	Primary batteries - Part 5: Safety of batteries with aqueous electrolyte	EN 60086-5	-

IEC 60086-1

Edition 13.0 2021-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Primary batteries –
Part 1: General

Piles électriques –
Partie 1: Généralités

IEC 60086-1:2021-04(en-fr)

IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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IEC 60086-1

Edition 13.0 2021-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Primary batteries – Part 1: General

Piles electriques – Partie 1: Généralités

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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PRIMARY BATTERIES –

Part 1: General

FOREWORD

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International Standard IEC 60086-1 has been prepared by IEC technical committee 35: Primary cells and batteries.

This thirteenth edition cancels and replaces the twelfth edition published in 2015. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) a compliance checklist was added as an Annex H;
b) definitions were harmonized with the other 60086 series documents;
c) the nominal voltage of the zinc air system is now listed as either 1,4 V or 1,45 V;
d) Annex F for calculation of MAD values was simplified;
e) a validity period for testing was added;
f) the accelerated aging test at 45 °C was changed from 13 to 4 weeks;

The text of this International Standard is based on the following documents:

FDIS	Report on voting
35/1465/FDIS	35/1469/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts in the IEC 60086 series, under the general title *Primary batteries*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

The technical content of this part of IEC 60086 provides fundamental requirements and information on primary cells and batteries. All batteries within the IEC 60086 series are considered dry cell batteries. In this sense, IEC 60086-1 is the main component of the IEC 60086 series and forms the basis for the subsequent parts. For example, this part includes elementary information on definitions, nomenclature, dimensions and marking. While specific requirements are included, the content of this part tends to explain methodology (how) and justification (why).

Over the years, this part has been changed to improve its content and remains under continual scrutiny to ensure that the publication is kept up to date with the advances in both battery and battery-powered device technologies.

Safety requirements and recommendations are available in IEC 60086-4, IEC 60086-5 and IEC 62281. Specifications are available in IEC 60086-2 and IEC 60086-3. Environmental aspects are dealt with in IEC 60086-6.