



SLOVENSKI STANDARD

SIST EN 60086-2:2016

01-april-2016

Nadomešča:
SIST EN 60086-2:2011

Primarne baterije - 2. del: Specifikacije fizikalnih in električnih veličin

Primary batteries - Part 2: Physical and electrical specifications

Primärbatterien - Teil 2: Physikalische und elektrische Spezifikationen

Piles électriques - Partie 2: Spécifications physiques et électriques

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Ta slovenski standard je istoveten z: **EN 60086-2:2016**

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29.220.10 Primarni členi in baterije Primary cells and batteries

SIST EN 60086-2:2016

en

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EUROPEAN STANDARD

EN 60086-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2016

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Supersedes EN 60086-2:2011

English Version

**Primary batteries - Part 2: Physical and electrical specifications
(IEC 60086-2:2015)**

Piles électriques - Partie 2: Spécifications physiques et
électriques
(IEC 60086-2:2015)

Primärbatterien - Teil 2: Physikalische und elektrische
Spezifikationen
(IEC 60086-2:2015)

This European Standard was approved by CENELEC on 2015-12-03. 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.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

EN 60086-2:2016**European foreword**

The text of document 35/1350/FDIS, future edition 13 of IEC 60086-2, prepared by IEC/TC 35 "Primary cells and batteries" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60086-2:2016.

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) 2016-09-03
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2018-12-03

This document supersedes EN 60086-2:2011.

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The text of the International Standard IEC 60086-2:2015 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 standard indicated :

IEC 60086-3	NOTE	Harmonized as EN 60086-3.
IEC 60086-4	NOTE	Harmonized as EN 60086-4.
IEC 60086-5	NOTE	Harmonized as EN 60086-5.
IEC 62281	NOTE	Harmonized as EN 62281.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When 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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60086-1	2015	Primary batteries - Part 1: General	EN 60086-1	2015
ISO 1101	-	Geometrical product specifications (GPS) - Geometrical tolerancing - Tolerances of form, orientation, location and run-out	-EN ISO 1101	-

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IEC 60086-2

Edition 13.0 2015-10

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Primary batteries – **STANDARD PREVIEW**
Part 2: Physical and electrical specifications
(standards.iteh.ai)

Piles électriques –
Partie 2: Spécifications physiques et électriques
SIST EN 60086-2:2016
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

PRIMARY BATTERIES –

Part 2: Physical and electrical specifications

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60086-2 has been prepared by IEC technical committee 35: Primary cells and batteries.

This thirteenth edition cancels and replaces the twelfth edition (2011) and constitutes a technical revision.

Significant changes from the previous edition are test changes to battery types R03, LR03, R6, LR6, PR70, PR41, PR48, 6F22, 6LR61, 6LP3146 4LR25-2, R14, LR14, R20, LR20, CR2025, and CR2032, adding the 5AR40 back into the standard, addition of common designations, addition of two new battery types FR14505 and FR10G445, deletion of battery types LR53, R40, 2EP3863, 6F100, and general editorial changes.

The text of this standard is based on the following documents:

FDIS	Report on voting
35/1350/FDIS	35/1352/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

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 publication will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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

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INTRODUCTION

The technical content of this part of IEC 60086 provides physical dimensions, discharge test conditions and discharge performance requirements. IEC 60086-2 complements the general information and requirements of IEC 60086-1.

This part was prepared to benefit primary battery users, device designers and battery manufacturers by furnishing the specifics of form, fit and function for individual standardized primary cells and batteries. Over the years, this part has been changed to improve its contents and may again be revised in due course in the light of comments made by national committees and experts on the basis of practical experience and changing technology.

This current revision is the result of a reformatting initiative, as well as some content changes, aimed at making this part more user-friendly, less ambiguous, and, from a cross reference basis, fully harmonized with other parts of IEC 60086.

NOTE Safety information is available in IEC 60086-4, IEC 60086-5 and IEC 62281.

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PRIMARY BATTERIES –

Part 2: Physical and electrical specifications

1 Scope

This part of IEC 60086 is applicable to primary batteries based on standardized electro-chemical systems.

It specifies

- the physical dimensions,
- the discharge test conditions and discharge performance requirements.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60086-1:2015, *Primary batteries – Part 1: General*

ISO 1101, *Geometrical product specifications (GPS) – Geometrical tolerancing – Tolerances of form, orientation, location and run-out*

3 Terms, definitions, symbols and abbreviations

For the purposes of this document, the terms, definitions, symbols and abbreviations given in IEC 60086-1 and the following apply.

3.1 Terms and definitions

3.1.1

application test

simulation of the actual use of a battery in a specific application

3.1.2

closed-circuit voltage

CCV

voltage across the terminals of a battery when it is on discharge

3.1.3

end-point voltage

EV

specified voltage of a battery at which the battery discharge is terminated

[SOURCE: IEC 60050-482:2004, 482-03-30]

3.1.4

minimum average duration

MAD

minimum average time on discharge which is met by a sample of batteries

Note 1 to entry: The discharge test is carried out according to the specified methods or standards and designed to show conformity with the standard applicable to the battery types.

3.1.5

nominal voltage (of a primary battery)

V_n

suitable approximate value of the voltage used to designate or identify a cell, a battery or an electrochemical system

[SOURCE: IEC 60050-482:2004, 482-03-31, modified ("(of a primary battery)" added)]

3.1.6

open-circuit voltage

OCV

voltage across the terminals of a cell or battery when it is off discharge

3.1.7

primary (cell or battery)

cell or battery that is not designed to be electrically recharged

3.1.8

round (cell or battery)

cell or battery with circular cross section

3.1.9

service output (of a primary battery)

service life, or capacity, or energy output of a battery under specified conditions of discharge

3.1.10

service output test

test designed to measure the service output of a battery

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Note 1 to entry: A service output test may be prescribed, for example, when

- a) an application test is too complex to replicate;
- b) the duration of an application test would make it impractical for routine testing purposes.

3.1.11

storage life

duration under specified conditions at the end of which a battery retains its ability to perform a specified service output

[SOURCE: IEC 60050-482:2004, 482-03-47, modified ("specified function" replaced by "specified service output")]

3.1.12

terminals (of a primary battery)

conductive parts of a battery that provide connection to an external circuit

3.2 Symbols and abbreviations

EV	end-point voltage
MAD	minimum average duration
OCV	open-circuit voltage (off-load voltage)
R	load resistance
V_n	nominal voltage of a primary battery