



**SLOVENSKI STANDARD**  
**SIST EN 60086-5:2002**  
**01-maj-2002**

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**Primary batteries - Part 5: Safety of batteries with aqueous electrolyte**

Primary batteries -- Part 5: Safety of batteries with aqueous electrolyte

Primärbatterien -- Teil 5: Sicherheit von Batterien mit wässrigem Elektrolyt

Piles électriques -- Partie 5: Sécurité des piles à électrolyte aqueux

**Ta slovenski standard je istoveten z: EN 60086-5:2000**

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EUROPEAN STANDARD

**EN 60086-5**

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2000

ICS 29.220.10

English version

**Primary batteries**  
**Part 5: Safety of batteries with aqueous electrolyte**  
**(IEC 60086-5:2000)**

Piles électriques  
Partie 5: Sécurité des piles  
à électrolyte aqueux  
(CEI 60086-5:2000)

Primärbatterien  
Teil 5: Sicherheit von Batterien  
mit wasserhaltigem Elektrolyt  
(IEC 60086-5:2000)

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This European Standard was approved by CENELEC on 2000-09-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

**CENELEC**

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

## Foreword

The text of document 35/1127/FDIS, future edition 1 of IEC 60086-5, prepared by IEC TC 35, Primary cells and batteries, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60086-5 on 2000-09-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2001-06-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2003-09-01

Annexes designated "normative" are part of the body of the standard.  
Annexes designated "informative" are given for information only.  
In this standard, annex ZA is normative and annexes A and B are informative.  
Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 60086-5:2000 was approved by CENELEC as a European Standard without any modification. (standards.iteh.ai)

In the official version, for annex Bibliography, the following note has to be added for the standard indicated:

IEC 60086-3:1995

NOTE: Harmonized as EN 60086-3:1996 (not modified).

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60086-1	1996	Primary batteries Part 1: General	EN 60086-1	1997
IEC 60086-2	1997	Part 2: Specification sheets	EN 60086-2	1997
IEC 60086-4	2000	Part 4: Safety standard for lithium batteries	EN 60086-4	2000
IEC 60050-481	1996	International Electrical Vocabulary Chapter 481: Primary cells and batteries	-	-
IEC 60068-2-6 + corr. March	1995 1995	Environmental testing Part 2: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	1995
IEC 60068-2-27	1987	Part 2: Tests - Test Ea and guidance Shock	EN 60068-2-27	1993
IEC 60068-2-32	1975	Part 2: Tests - Test Ed: Free fall	EN 60068-2-32 <sup>1)</sup>	1993

<sup>1)</sup> EN 60068-2-32 includes A2:1990 to IEC 60068-2-32

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# INTERNATIONAL STANDARD

# IEC 60086-5

First edition  
2000-07

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## Primary batteries –

### Part 5: Safety of batteries with aqueous electrolyte

**iTeh STANDARD PREVIEW**  
*Piles électriques –*  
**(standards.iteh.ai)**

*Partie 5:  
Sécurité des piles à électrolyte aqueux*

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International Electrotechnical Commission  
Telefax: +41 22 919 0300

3, rue de Varembe Geneva, Switzerland  
e-mail: inmail@iec.ch IEC web site <http://www.iec.ch>



Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## PRIMARY BATTERIES –

## Part 5: Safety of batteries with aqueous electrolyte

## FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60086-5 has been prepared by IEC technical committee 35: Primary cells and batteries.

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

FDIS	Report on voting
35/1127/FDIS	35/1130/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.

IEC 60086 consists of the following parts, under the general title: Primary batteries:

Part 1: General

Part 2: Specification sheets

Part 3: Watch batteries

Part 4: Safety of lithium batteries

Part 5: Safety of batteries with aqueous electrolyte

This publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

Annexes A and B are for information only.

The committee has decided that the contents of this publication will remain unchanged until 2002. At this date, the publication will be

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

A bilingual version of this publication may be issued at a later date.

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## INTRODUCTION

The concept of safety is closely related to safeguarding the integrity of people and property. This part of IEC 60086 specifies requirements and tests for primary batteries with aqueous electrolyte and has been prepared in accordance with ISO/IEC guidelines, taking into account all relevant national and international standards which apply. Also included in this standard is guidance for appliance designers with respect to battery compartments and information regarding packaging, handling, warehousing and transportation.

Safety is a balance between freedom from risks of harm and other demands to be met by the product. There can be no absolute safety. Even at the highest level of safety, the product can only be relatively safe. In this respect, decision-making is based on risk evaluation and safety judgement.

As safety will pose different problems, it is impossible to provide a set of precise provisions and recommendations that will apply in every case. However, this standard, when followed on a judicious "use when applicable" basis, will provide reasonably consistent standards for safety.

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