SLOVENSKI STANDARD

SIST EN 62133:2004

februar 2004

Secondary cells and batteries containing alkaline or other non-acid elecrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable application

ICS 29.220.30

Referenčna številka
SIST EN 62133:2004(en)

EUROPEAN STANDARD **EN 62133**

NORME EUROPÉENNE

EUROPÄISCHE NORM April 2003

ICS 29.220.30

Supersedes EN 61809:2000;
partially supersedes EN 61960-1:2001 and EN 61960-2:2001

English version

Secondary cells and batteries containing alkaline or other non-acid elecrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications
(IEC 62133:2002)

Accumulateurs alcalins et autres accumulateurs à électrolyte non acide - Exigences de sécurité pour les accumulateurs portables étanches, et pour les batteries qui en sont constituées, destinés à l'utilisation dans des applications portables
(CEI 62133:2002)

Akkumulatoren und Batterien mit alkalischem oder anderen nicht säurehaltigen Elektrolyten - Sicherheitsanforderungen für tragbare gasdichte Akkumulatoren und daraus hergestellte Batterien für die Verwendung in tragbaren Geräten
(IEC 62133:2002)

This European Standard was approved by CENELEC on 2002-12-03. 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 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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, 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

Ref. No. EN 62133:2003 E

Foreword

The text of document 21A/363/FDIS, future edition 1 of IEC 62133, prepared by SC 21A, Secondary cells and batteries containing alkaline or other non-acid electrolytes, of IEC TC 21, Secondary cells and batteries, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62133 on 2002-12-03.

This European Standard supersedes EN 61809:2000 and partially supersedes EN 61960-1:2001 and EN 61960-2:2001.

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) 2003-11-01

– latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2005-12-01

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.

Endorsement notice

The text of the International Standard IEC 62133:2002 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 60664	NOTE	Harmonized as EN 60664 series (not modified).
IEC 61434	NOTE	Harmonized as EN 61434:1996 (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.

Publication	Year	Title	EN/HD	Year
IEC 60050-486	- [1)]	International Electrotechnical Vocabulary (IEV) Chapter 486: Secondary cells and batteries	-	-
IEC 60051	Series	Direct acting indicating analogue electrical measuring instruments and their accessories	EN 60051	Series
IEC 60285	- [1)]	Alkaline secondary cells and batteries - Sealed nickel-cadmium cylindrical rechargeable single cells	EN 60285	1994 [2)]
IEC 60485	- [1)]	Digital electronic d.c. voltmeters and d.c. electronic analogue-to-digital converters	-	-
IEC 61436	- [1)]	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Sealed nickel-metal hydride rechargeable single cells	EN 61436	1998 [2)]
IEC 61438	- [1)]	Possible safety and health hazards in the use of alkaline secondary cells and batteries - Guide to equipment manufacturers and users	-	-
IEC 61440	- [1)]	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Sealed nickel-cadmium small prismatic rechargeable single cells	EN 61440	1997 [2)]

1) Undated reference.

2) Valid edition at date of issue.

Publication	Year	Title	EN/HD	Year
IEC 61951-1	- [1)]	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Portable sealed rechargeable single cells Part 1: Nickel-cadmium	EN 61951-1	2001 [2)]
IEC 61951-2	- [1)]	Part 2: Nickel-metal hydride	EN 61951-2	2001 [2)]
IEC 61960	- [3)]	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Secondary lithium cells and batteries for portable applications	-	-
ISO/IEC Guide 51	- [1)]	Safety aspects - Guidelines for their inclusion in standards	-	-

3) At draft stage.

NORME INTERNATIONALE

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Accumulateurs alcalins et autres accumulateurs à électrolyte non acide – Exigences de sécurité pour les accumulateurs portables étanches, et pour les batteries qui en sont constituées, destinés à l'utilisation dans des applications portables

Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications

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International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SECONDARY CELLS AND BATTERIES CONTAINING ALKALINE OR OTHER NON-ACID ELECTROLYTES –

SAFETY REQUIREMENTS FOR PORTABLE SEALED SECONDARY CELLS, AND FOR BATTERIES MADE FROM THEM, FOR USE IN PORTABLE APPLICATIONS

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 62133, which supersedes IEC 61809, has been prepared by subcommittee 21A: Secondary cells and batteries containing alkaline or other non-acid electrolytes, of IEC technical committee 21: Secondary cells and batteries.

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

FDIS	Report on voting
21A/363/FDIS	21A/371/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.

The committee has decided that the contents of this publication will remain unchanged until 2008-01. At this date, the publication will be

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

SECONDARY CELLS AND BATTERIES CONTAINING ALKALINE OR OTHER NON-ACID ELECTROLYTES –

SAFETY REQUIREMENTS FOR PORTABLE SEALED SECONDARY CELLS, AND FOR BATTERIES MADE FROM THEM, FOR USE IN PORTABLE APPLICATIONS

1 General

1.1 Scope

This International Standard specifies requirements and tests for the safe operation of portable sealed secondary cells and batteries (other than button) containing alkaline or other non-acid electrolyte, under intended use and reasonably foreseeable misuse.

1.2 Normative references

The following referenced documents are indispensable for the application 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.

IEC 60050-486, *International Electrotechnical Vocabulary – Chapter 486: Secondary cells and batteries*

IEC 60051 (all parts), *Direct acting indicating analogue electrical measuring instruments and their accessories*

IEC 60285, *Alkaline secondary cells and batteries – Sealed nickel-cadmium cylindrical rechargeable single cells*

IEC 60485, *Digital electronic d.c. voltmeters and d.c. electronic analogue-to-digital converters*

IEC 61436, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Sealed nickel-metal hydride rechargeable single cells*

IEC 61438, *Possible safety and health hazards in the use of alkaline secondary cells and batteries – Guide to equipment manufacturers and users*

IEC 61440, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Sealed nickel-cadmium small prismatic rechargeable single cells*

IEC 61951-1, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Portable sealed rechargeable single cells – Part 1: Nickel-cadmium*

IEC 61951-2, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Portable sealed rechargeable single cells – Part 2: Nickel-metal hydride*

IEC 61960, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Secondary lithium cells and batteries for portable applications* [1]

ISO/IEC Guide 51, *Safety aspects – Guidelines for their inclusion in standards*

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[1] To be published.

1.3 Definitions

For the purpose of this international standard, the definitions contained in IEC 60050-486 and ISO/IEC Guide 51 as well as the following definitions apply.

1.3.1
safety
freedom from unacceptable risk

1.3.2
risk
a combination of the probability of occurrence of harm and the severity of that harm

1.3.3
harm
physical injury or damage to the health of people or damage to property or to the environment

1.3.4
hazard
potential source of harm

1.3.5
intended use
use of a product, process or service in accordance with specifications, instructions and information provided by the supplier

1.3.6
reasonably foreseeable misuse
use of a product, process or service in a way which is not intended by the supplier, but which may result from readily predictable human behaviour

1.3.7
secondary cell
basic manufactured unit providing a source of electrical energy by direct conversion of chemical energy, that consists of electrodes, separators, electrolyte, container and terminals, and that is designed to be charged electrically

1.3.8
secondary battery
assembly of secondary cell(s) ready for use as a source of electrical energy characterized by its voltage, size, terminal arrangement, capacity and rate capability

1.3.9
leakage
visible escape of liquid electrolyte

1.3.10
venting
release of excessive internal pressure from a cell/battery in a manner intended by design to preclude rupture or explosion

1.3.11
rupture
mechanical failure of a cell container or battery case induced by an internal or external cause, resulting in exposure or spillage but not ejection of materials