

01-junij-2013

Sekundarni členi in baterije z alkalnimi ali drugimi ne kislinjskimi elektroliti - Varnostne zahteve za prenosne zatesnjene sekundarne člene in za baterije, narejene iz njih, za uporabo v prenosnih napravah

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

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

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

Ta slovenski standard je istoveten z: EN 62133:2013

ICS:

29.220.30	Alkalni sekundarni členi in baterije	Alkaline secondary cells and batteries
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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 62133

March 2013

ICS 29.220.30

Supersedes EN 62133:2003

English version

**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
(IEC 62133:2012)**

Accumulateurs alcalins et autres
accumulateurs à électrolyte non acide -
Exigences de sécurité pour les
accumulateurs portables étanches, et
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destinés à l'utilisation dans des
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(CEI 62133:2012)

Akkumulatoren und Batterien mit
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gasdichte Akkumulatoren und daraus
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in tragbaren Geräten
(IEC 62133:2012)

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CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 21A/503/FDIS, future edition 2 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 approved by CENELEC as EN 62133:2013.

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) 2013-10-10
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-01-10

This document supersedes EN 62133:2003.

EN 62133:2013 includes the following significant technical changes with respect to EN 62133:2003:

- update of assembly of cells into batteries (5.5);
- addition of design recommendations for lithium system only (5.6.2);
- separation of nickel systems and lithium systems (Clause 6);
- addition of specific requirements and tests for lithium systems (Clause 8);
- addition of charging of secondary lithium-ion cells for safe use (Annex A).

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Endorsement notice

The text of the International Standard IEC 62133:2012 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 60051 series	NOTE	Harmonized in EN 60051 series.
IEC 60664 series	NOTE	Harmonized in EN 60664 series.
IEC 61434	NOTE	Harmonized as EN 61434.
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 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 60050-482	-	International Electrotechnical Vocabulary (IEV) - Part 482: Primary and secondary cells and batteries	-	-
IEC 61951-1	-	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Portable sealed rechargeable single cells - Part 1: Nickel-cadmium	EN 61951-1	-
IEC 61951-2	-	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Portable sealed rechargeable single cells - Part 2: Nickel-metal hydride	EN 61951-2	-
IEC 61960	-	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Secondary lithium cells and batteries for portable applications	EN 61960	-
ISO/IEC Guide 51	-	Safety aspects - Guidelines for their inclusion in standards	-	-

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IEC 62133

Edition 2.0 2012-12

INTERNATIONAL STANDARD

NORME INTERNATIONALE



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

<https://standards.iteh.ai/catalog/standards/sist/381acd14-bd3b-4c3a-b67c-3d451c324d00/sist-en-62133-2013>

**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**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

W

ICS 29.220.30

ISBN 978-2-83220-505-1

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CONTENTS

FOREWORD	4
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 Parameter measurement tolerances	8
5 General safety considerations	8
5.1 General	8
5.2 Insulation and wiring	9
5.3 Venting	9
5.4 Temperature/voltage/current management	9
5.5 Terminal contacts	9
5.6 Assembly of cells into batteries	9
5.6.1 General	9
5.6.2 Design recommendation for lithium systems only	10
5.7 Quality plan	10
6 Type test conditions	10
7 Specific requirements and tests (nickel systems)	11
7.1 Charging procedure for test purposes	11
7.2 Intended use	12
7.2.1 Continuous low-rate charging (cells)	12
7.2.2 Vibration	12
7.2.3 Moulded case stress at high ambient temperature (batteries)	12
7.2.4 Temperature cycling	13
7.3 Reasonably foreseeable misuse	13
7.3.1 Incorrect installation (cells)	13
7.3.2 External short circuit	14
7.3.3 Free fall	14
7.3.4 Mechanical shock (crash hazard)	14
7.3.5 Thermal abuse (cells)	15
7.3.6 Crushing of cells	15
7.3.7 Low pressure (cells)	15
7.3.8 Overcharge	15
7.3.9 Forced discharge (cells)	16
8 Specific requirements and tests (lithium systems)	16
8.1 Charging procedures for test purposes	16
8.1.1 First procedure	16
8.1.2 Second procedure	16
8.2 Intended use	17
8.2.1 Continuous charging at constant voltage (cells)	17
8.2.2 Moulded case stress at high ambient temperature (battery)	17
8.3 Reasonably foreseeable misuse	17
8.3.1 External short circuit (cell)	17
8.3.2 External short circuit (battery)	17
8.3.3 Free fall	18
8.3.4 Thermal abuse (cells)	18

8.3.5	Crush (cells).....	18
8.3.6	Over-charging of battery	18
8.3.7	Forced discharge (cells)	19
8.3.8	Transport tests	19
8.3.9	Design evaluation – Forced internal short circuit (cells)	19
9	Information for safety.....	21
10	Marking	21
10.1	Cell marking	21
10.2	Battery marking	22
10.3	Other information	22
11	Packaging	22
Annex A (normative)	Charging range of secondary lithium ion cells for safe use	23
Annex B (informative)	Recommendations to equipment manufacturers and battery assemblers	34
Annex C (informative)	Recommendations to the end-users	35
Bibliography	36
Figure 1	– Temperature profile for 7.2.4 – Temperature cycling test.....	13
Figure 2	– Jig for pressing	21
Figure A.1	– Typical of operating region of Li-ion cells with cobalt oxide cathode and carbon anode.....	24
Figure A.2	– Shape of nickel particle.....	28
Figure A.3	– Nickel particle insertion position between positive and negative active material coated area of cylindrical cell	29
Figure A.4	– Nickel particle insertion position between positive aluminum foil and negative active material coated area of cylindrical cell	29
Figure A.5	– Disassembly of cylindrical cell	30
Figure A.6	– Nickel particle insertion position between positive and negative (active material) coated area of prismatic cell.....	31
Figure A.7	– Nickel particle insertion position between positive aluminum foil and negative (active material) coated area of prismatic cell	32
Figure A.8	– Disassembly of prismatic cells	33
Table 1	– Sample size for type tests (nickel systems)	11
Table 2	– Sample size for type tests (lithium systems)	11
Table 3	– Conditions for vibration test.....	12
Table 4	– Condition of charging procedure.....	16
Table 5	– Ambient temperature for cell test ^a	20

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

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International Standard IEC 62133 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.

This second edition cancels and replaces the first edition published in 2002. It constitutes a technical revision.

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

- update of assembly of cells into batteries (5.5);
- addition of design recommendations for lithium system only (5.6.2);
- separation of nickel systems and lithium systems (Clause 6);

- addition of specific requirements and tests for lithium systems (Clause 8);
- addition of charging of secondary lithium-ion cells for safe use (Annex A).

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

FDIS	Report on voting
21A/503/FDIS	21A/509/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 following difference exists in the countries indicated below:

Subclause 8.3.9: Design evaluation – Forced internal short circuit only applies to Korea, Japan, Switzerland and France.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site 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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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 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.

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 60050-482, *International Electrotechnical Vocabulary – Part 482: Primary and secondary cells and batteries*

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*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-482 and ISO/IEC Guide 51, as well as the following apply.

3.1

safety

freedom from unacceptable risk

3.2

risk

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

3.3

harm

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

3.4**hazard**

potential source of harm

3.5**intended use**

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

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

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

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

3.9**leakage**

visible escape of liquid electrolyte

3.10**venting**

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

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

3.12**explosion**

failure that occurs when a cell container or battery case opens violently and major components are forcibly expelled

3.13**fire**

the emission of flames from a cell or battery

3.14**portable battery**

a battery for use in a device or appliance which is conveniently hand carried

3.15**portable cell**

a cell intended for assembly in a portable battery

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