IEC 62133

Edition 2.0 2012-12
REDLINE VERSION

INTERNATIONAL STANDARD

colour inside

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

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 29.220.30

ISBN 978-2-8322-0505-1

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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

IEC 62133:2012

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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

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– addition of design recommendations for lithium system only (5.6.2);
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– 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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The contents of the corrigendum of June 2013 have been included in this copy.

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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*

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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AVANT-PROPOS

1) La Commission Electrotechnique Internationale (CEI) est une organisation mondiale de normalisation composée de l'ensemble des comités électrotechniques nationaux (Comités nationaux de la CEI). La CEI a pour objet de favoriser la coopération internationale pour toutes les questions de normalisation dans les domaines de l'électricité et de l'électronique. A cet effet, la CEI – entre autres activités – publie des Normes internationales, des Spécifications techniques, des Rapports techniques, des Spécifications accessibles au public (PAS) et des Guides (ci-après dénommés "Publication(s) de la CEI"). Leur élaboration est confiée à des comités d'études, aux travaux desquels tout Comité national intéressé par le sujet traité peut participer. Les organisations internationales, gouvernementales et non gouvernementales, en liaison avec la CEI, participent également aux travaux. La CEI collabore étroitement avec l'Organisation Internationale de Normalisation (ISO), selon des conditions fixées par accord entre les deux organisations.

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La Norme internationale CEI 62133 a été préparée par le sous-comité 21A: Accumulateurs alcalins et autres accumulateurs à électrolyte non acide, du comité d'étude 21 de la CEI: Accumulateurs.

Cette deuxième édition annule et remplace la première édition parue en 2002, dont elle constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

– mise à jour du montage des éléments en batteries (5.5);

– recommandations complémentaires de conception uniquement pour les systèmes au lithium (5.6.2);
– séparation des systèmes au nickel et des systèmes au lithium (Article 6);
– addition d'exigences et d'essais spécifiques pour les systèmes au lithium (Article 8);
– addition des éléments d'accumulateurs lithium-ion pour un usage sûr (Annexe A).

Le texte de cette norme est basé sur les documents suivants:

FDIS	Rapport de vote
21A/503/FDIS	21A/509/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à l'approbation de cette norme.

Cette publication a été rédigée selon les Directives ISO/CEI, Partie 2.

Les différences suivantes existent dans les pays indiqués ci-dessous:

Paragraphe 8.3.9: Évaluation de la conception – Court-circuit interne forcé, s'applique uniquement à la Corée, à la France, au Japon et à la Suisse.

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- amendée.

Le contenu du corrigendum de juin 2013 a été pris en considération dans cet exemplaire.

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EXIGENCES DE SÉCURITÉ POUR LES ACCUMULATEURS PORTABLES ÉTANCHES, ET POUR LES BATTERIES QUI EN SONT CONSTITUÉES, DESTINÉS À L'UTILISATION DANS DES APPLICATIONS PORTABLES

1 Domaine d'application

La présente Norme internationale spécifie les exigences et les essais pour le fonctionnement en sécurité des accumulateurs portables étanches, et accumulateurs (autre que boutons) contenant un électrolyte alcalin ou un autre électrolyte non acide dans des utilisations prévues et dans des utilisations abusives raisonnablement prévisibles.

2 Références normatives

Les documents suivants sont cités en référence de manière normative, en intégralité ou en partie, dans le présent document et sont indispensables pour son application. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

CEI 60050-482, *Vocabulaire Électrotechnique International – Partie 482: Piles et accumulateurs électriques*

CEI 61951-1, *Accumulateurs alcalins et autres accumulateurs à électrolyte non acide – Accumulateurs individuels portables étanches – Partie 1: Nickel-cadmium*

CEI 61951-2, *Accumulateurs alcalins et autres accumulateurs à électrolyte non acide – Accumulateurs individuels portables étanches – Partie 2: Nickel-métal hydrure*

CEI 61960, *Accumulateurs alcalins et autres accumulateurs à électrolyte non acide – Éléments et batteries d'accumulateurs au lithium pour applications portables*

Guide ISO/CEI 51, *Aspects liés à la sécurité – Principes directeurs pour les inclure dans les normes*

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~~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]~~

~~[1] To be published.~~

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