

**Sekundaarelemendid ja -patareid, mis sisaldavad  
leeliselisi või teisi mittehappelisi elektrolüüte.  
Liitiumpatareid ja sekundaarelemendid  
kaasaskantavatele rakendustele**

**Secondary cells and batteries containing alkaline or  
other non-acid electrolytes - Secondary lithium cells and  
batteries for portable applications**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 61960:2011 sisaldab Euroopa standardi EN 61960:2011 ingliskeelset teksti.	This Estonian standard EVS-EN 61960:2011 consists of the English text of the European standard EN 61960:2011.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 26.08.2011.	Date of Availability of the European standard is 26.08.2011.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

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English version

**Secondary cells and batteries containing alkaline or other non-acid electrolytes -  
Secondary lithium cells and batteries for portable applications  
(IEC 61960:2011)**

Accumulateurs alcalins et autres  
accumulateurs à électrolyte non acide -  
Eléments et batteries d'accumulateurs au  
lithium pour applications portables  
(CEI 61960:2011)

Akkumulatoren und Batterien mit  
alkalischen oder anderen  
nichtsäurehaltigen Elektrolyten -  
Lithium-Akkumulatoren und -batterien für  
tragbare Geräte  
(IEC 61960:2011)

This European Standard was approved by CENELEC on 2011-07-21. 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.

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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/486/FDIS, future edition 2 of IEC 61960, 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 61960 on 2011-07-21.

This European Standard supersedes EN 61960:2004.

EN 61960:2011 includes the following significant technical changes with respect to EN 61960:2004:

- 7.6 Endurance in cycles: addition of an accelerated test procedure.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

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) 2012-04-21
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2014-07-21

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 61960:2011 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 61434	NOTE Harmonized as EN 61434.
IEC 61959	NOTE Harmonized as EN 61959.
IEC 62133	NOTE Harmonized as EN 62133.
IEC 62281	NOTE Harmonized as EN 62281.

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**Annex ZA**  
(normative)

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

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.

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 - Part 482: Primary and secondary cells and batteries	-	-
IEC 61000-4-2	-	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	-

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# **SECONDARY CELLS AND BATTERIES CONTAINING ALKALINE OR OTHER NON-ACID ELECTROLYTES – SECONDARY LITHIUM CELLS AND BATTERIES FOR PORTABLE APPLICATIONS**

## **1 Scope**

This International Standard specifies performance tests, designations, markings, dimensions and other requirements for secondary lithium single cells and batteries for portable applications.

The objective of this standard is to provide the purchasers and users of secondary lithium cells and batteries with a set of criteria with which they can judge the performance of secondary lithium cells and batteries offered by various manufacturers.

This standard defines a minimum required level of performance and a standardized methodology by which testing is performed and the results of this testing reported to the user. Hence, users will be able to establish the viability of commercially available cells and batteries via the declared specification and thus be able to select the cell or battery best suited for their intended application.

This standard covers secondary lithium cells and batteries with a range of chemistries. Each electrochemical couple has a characteristic voltage range over which it releases its electrical capacity, a characteristic nominal voltage and a characteristic end-of-discharge voltage during discharge. Users of secondary lithium cells and batteries are requested to consult the manufacturer for advice.

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

IEC 61000-4-2, *Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test*

## **3 Terms and definitions**

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

### **3.1**

#### **charge recovery**

capacity that a cell or battery can deliver after the charge following the charge retention test according to 3.2