



SLOVENSKI STANDARD
SIST EN 62281:2004

01-september-2004

Varnost primarnih in sekundarnih litijevih členov in baterij med transportom

Safety of primary and secondary lithium cells and batteries during transport

Sicherheit von Primär- und Sekundär-Lithiumbatterien beim Transport

Sécurité des piles et des accumulateurs au lithium pendant le transport

Ta slovenski standard je istoveten z: EN 62281:2004

[SIST EN 62281:2004](https://standards.iteh.ai/catalog/standards/sist/47ed9992-6771-4909-98b3-573c54dbdb88/sist-en-62281-2004)

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ICS:

29.220.10 Primarni členi in baterije Primary cells and batteries

SIST EN 62281:2004 **en**

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EUROPEAN STANDARD

EN 62281

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2004

ICS 29.220.10

English version

**Safety of primary and secondary lithium cells
and batteries during transport
(IEC 62281:2004)**

Sécurité des piles et des accumulateurs
au lithium pendant le transport
(CEI 62281:2004)

Sicherheit von Primär- und Sekundär-
Lithiumbatterien beim Transport
(IEC 62281:2004)

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This European Standard was approved by CENELEC on 2004-06-01. 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, 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 35/1202/FDIS, future edition 1 of IEC 62281, prepared by IEC TC 35, Primary cells and batteries, and 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 62281 on 2004-06-01.

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) 2005-03-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2007-06-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62281:2004 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 60068-2-6	NOTE	Harmonized as EN 60068-2-6:1995 (not modified). https://standards.iteh.ai/catalog/standards/sist/47ed9992-6771-4909-7805-573c54bb0688/sist-en-62281-2004
IEC 60068-2-27	NOTE	Harmonized as EN 60068-2-27:1993 (not modified).
IEC 62133	NOTE	Harmonized as EN 62133:2003 (not modified).

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 Where 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 60086-4	- 1)	Primary batteries Part 4: Safety standard for lithium batteries	EN 60086-4	2000 2)
IEC 61960	- 1)	Secondary cells and batteries containing alkaline or other non-acid electrolyte - Secondary lithium cells and batteries for portable applications	EN 61960	2004 2)
IEC Guide 104	1997	The preparation of safety publications and the use of basic safety publications and group safety publications	-	-

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1) Undated reference.

2) Valid edition at date of issue.

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au lithium pendant le transport**

**Safety of primary and secondary lithium
cells and batteries during transport**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SAFETY OF PRIMARY AND SECONDARY LITHIUM CELLS AND BATTERIES DURING TRANSPORT

FOREWORD

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International Standard IEC 62281 has been prepared jointly by IEC technical committee 35: Primary cells and batteries and by subcommittee 21A: Secondary cells and batteries containing alkaline or other non-acid electrolytes, of IEC technical committee 21: Secondary cells and batteries.

It has the status of a group safety publication in accordance with IEC Guide 104: *The preparation of safety publications and the use of basic safety publications and group safety publications*.

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

FDIS	Report on voting
35/1202/FDIS	35/1206/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 2007. At this date, the publication will be

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

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INTRODUCTION

Primary lithium cells and batteries were first introduced in military applications in the 1970s. At that time, little commercial interest and no industrial standards existed. Consequently, the United Nations (UN) Committee of Experts on the Transport of Dangerous Goods, although usually referring to industrial standards for testing and criteria, introduced a sub-section in the Manual of tests and criteria, dealing with safety tests relevant to transport of primary lithium cells and batteries. Meanwhile, commercial interest in primary and secondary (rechargeable) lithium cells and batteries has grown and several industrial standards exist. However, the existing IEC standards are manifold, not completely harmonized, and not necessarily relevant to transport. They are not suitable to be used as a source of reference in the UN Model Regulations. Therefore, a new group safety standard has been prepared to harmonize the tests and requirements relevant to transport.

This International Standard applies to primary and secondary (rechargeable) lithium cells and batteries containing lithium in any chemical form: lithium metal, lithium alloy or lithium-ion. Lithium-metal and lithium alloy primary electrochemical systems use metallic lithium and lithium alloy, respectively, as the negative electrode. Lithium-ion secondary electrochemical systems use intercalation compounds (intercalated lithium exists in an ionic or quasi-atomic form within the lattice of the electrode material) in the positive and in the negative electrodes.

This International Standard also applies to lithium polymer cells and batteries, which are considered either as primary lithium-metal cells and batteries or as secondary lithium-ion cells and batteries, depending on the nature of the material used in the negative electrode.

The history of transporting primary and secondary lithium cells and batteries is worth noting. Since the 1970s, over ten billion primary lithium cells and batteries have been transported, and since the early 1990s, over one billion secondary (rechargeable) lithium cells and batteries utilizing a lithium-ion system have been transported. As the number of primary and secondary lithium cells and batteries to be transported is increasing, it is appropriate to also include in this standard the safety testing of packaging used for the transportation of these products.

This International Standard specifically addresses the safety of primary and secondary lithium cells and batteries during transport and also the safety of the packaging used. Other International Standards dealing with the safety of primary and secondary lithium cells and batteries are referenced in Clause 2 and in the bibliography of this standard. They include the safety of primary and secondary lithium cells and batteries during handling, use and disposal and also address particular aspects of primary lithium batteries (IEC 60086-4) and secondary lithium cells and batteries (IEC 62133). They also contain some test methods and acceptance criteria that are relevant to transport. Consideration may, in the future, be given to the harmonization of these standards with this standard.