Ohutusnõuded tagavaraakudele ja akupaigaldistele. Osa 2: Statsionaarsed akud

Safety requirements for secondary batteries and battery installations - Part 2: Stationary batteries

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 50272-2:2006 sisaldab Euroopa standardi EN 50272-2:2001 ingliskeelset teksti.	This Estonian standard EVS-EN 50272-2:2006 consists of the English text of the European standard EN 50272-2:2001.
Standard on kinnitatud Eesti Standardikeskuse 15.10.2002 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 15.10.2002 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 12.06.2001.	Date of Availability of the European standard text 12.06.2001.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

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Võtmesõnad: akupaigaldis, elektritoide, ohutusnõuded

EUROPEAN STANDARD **EN 50272-2**

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English version

Safety requirements for secondary batteries and battery installations Part 2: Stationary batteries

Règles de sécurité pour les batteries et les installations de batteries
Partie 2: Batteries stationnaires

Sicherheitsanforderungen an Batterien und Batterieanlagen
Teil 2: Stationäre Batterien

This European Standard was approved by CENELEC on 2000-08-01. 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.

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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 50272-2:2001 E

Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 21X, Secondary cells and batteries.

The text of the draft was submitted to the formal vote and was approved by CENELEC on 2000-08-01.

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) 2001-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2003-04-01

Annexes designated "informative" are given for information only.
In this standard, annexes A and B are informative.

Introductory note

1. For the preparation of EN 50272-2 the following European country's national standards have been taken into consideration:

Germany:	DIN VDE 0510 Part 2 Batteries and battery installations
United Kingdom:	BS 6133 for lead-acid batteries BS 6132 for NiCd batteries
Sweden:	SS 408 01 10 relating parts for rechargeable batteries, erection and ventilation
Switzerland:	SEV 1000-1 and SEV 1000-2 relating parts of instructions for installations in buildings
Italy:	Doc. D.P.R. 547, art. 302 and 303 , Safety in battery installations CEI 21-6 Part 3
Netherlands:	NEN 1010 relating parts of safety regulations for low voltage installations
Austria	ÖVE-C10 Part 2 , Batteries and battery installations
France	NF C15-100 , article 554 Batteries d'accumulateurs Article EC10, Règlement de securité contre l'incendie relatif aux établissemments recevant du public

Only those paragraphs have been considered where common agreement was found or specific need was recognised.

2. The described safety requirements comprise the protective measures to protect from hazards generated by the electricity, the electrolyte, and the explosive gases when using secondary batteries. In addition measures are described to maintain the functional safety of batteries and battery installations.

3. For the electrical safety (protection against electric shock) under clause 5 this document refers to HD 384.4.41 (IEC 60364-4-41). The pilot function of this standard is fully observed by indication of cross-reference numbers of the relevant clauses. But interpretation is given where adoption to direct current (DC) circuits is required.

4. This safety standard comes into force with the date of publication and applies to all new batteries and battery installations. Previous installations shall conform with the existing national standards at the time of installation. In case of redesign of old installations this standard applies.

Contents

1 Scope

This European Standard applies to stationary secondary batteries and battery installations with a maximum voltage of DC 1500 V (nominal) and describes the principal measures for protections against hazards generated from:

- electricity,
- gas emission,
- electrolyte.

It provides requirements on safety aspects associated with the erection, use, inspection, maintenance and disposal.

It covers lead-acid and NiCd batteries.

2 Main applications

Examples for the main applications are:

- Telecommunications,
- Power Station Operation,
- Central Emergency Lighting and Alarm Systems,
- Uninterruptible Power Supplies,
- Stationary Engine Starting,
- Photovoltaic Systems.

3 Normative references

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).

EN 166	Eye protection
EN 345	Safety footwear for professional use
EN 50091-1-2	Uninterruptible power systems (UPS) General and safety requirements for UPS used in restricted access locations
EN 50178	Electronic equipment for use in power installations
EN 60079-10	Electrical apparatus for explosive gas atmospheres Part 10: Classification of hazardous areas (IEC 60079-10)
EN 60529	Degrees of protection provided by enclosures (IP code) (IEC 60529)
EN 60623	Vented nickel-cadmium prismatic rechargeable single cells (IEC 60623)
EN 60896-1	Stationary lead-acid batteries - General requirements and methods of test Part 1: Vented types (IEC 60896-1)
EN 60896-2	Stationary lead-acid batteries - General requirements and methods of test Part 2: Valve-regulated types (IEC 60896-2)
EN 60900	Hand tools for live working up to 1 kV a.c. and 1,5 kV d.c. (IEC 60900, mod.)
EN 60950	Safety of information technology equipment (IEC 60950, mod.)
EN 60990	Methods of measurement of touch-current and protective conductor current (IEC 60990)

EN 61140	Protection against electric shock - Common aspects for installation and equipment (IEC 61140)
EN 61660-1	Short-circuit currents in d.c. auxiliary installations in power plants and substations -- Part 1: Calculation of short-circuit currents (IEC 61660-1)
EN 61660-2	Short-circuit currents in d.c. auxiliary installations in power plants and substations -- Part 2: Calculation of effects (IEC 61660-2)
HD 193	Voltage bands for electrical installations of buildings (IEC 60449)
HD 366	Classification of electrical and electronic equipment with regard to protection against electric shock (IEC 60536)
HD 384.4.41	Electrical installations of buildings Part 4: Protection for safety -- Chapter 41: Protection against electric shock (IEC 60364-4-41, mod.)
HD 384.4.43	Electrical installation of building Part 4: Protection for safety -- Chapter 43: Protection against overcurrent (IEC 60364-4-43)
HD 384.5.53	Electrical installation of buildings Part 5: Selection and erection of electrical equipment (IEC 60364-5-53)
HD 384.5.54	Electrical installations of buildings Part 5: Selection and erection of electrical equipment Chapter 54: Earthing arrangements and protective conductors (IEC 60364-5-54, mod.)
HD 384.7.706	Electrical installation of buildings Part 7: Requirements for special installations or locations Section 706: Restrictive conductive locations (IEC 60364-7-706)
HD 625.1	Insulation co-ordination for equipment in low-voltage systems Part 1: Principles, requirements and tests (IEC 60664-1)
IEC 60050-486	International Electrotechnical Vocabulary, Chapter 486: Secondary cells and batteries
IEC/TR 60755	General requirements for residual current operated protective devices
IEC 61201	Extra-low voltage (ELV) - Limit values
IEC 61340-4-1	Electrostatics - Part 4: Standard test methods for specific applications - Section 1: Electrostatic behaviour of floor coverings and installed floors
ISO 3864	Safety colours and safety signs

EC Directive 91/157/EEC	Batteries and accumulators containing certain dangerous substances
EC Directive 93/86/EEC	Adaptation to technical progress of Directive 91/157/EEC

4 General definitions

4.1 (secondary) cell; (rechargeable) cell; single cell

An assembly of electrodes and electrolyte which constitutes the basic unit of a secondary battery. (see IEC 60050-486-01-02)

NOTE This assembly is contained in an individual case and closed by a cover.

4.2 vented (secondary) cell

A secondary cell having a cover provided with an opening through which gaseous products may escape. (see IEC 60050-486-01-18)