

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Safety requirements for secondary batteries and battery installations –
Part 4: Valve-regulated lead-acid batteries for use in portable appliances**

**Exigences de sécurité pour les batteries et accumulateurs et les installations
de batteries –
Partie 4: Batteries au plomb à soupapes pour appareils portables**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SAFETY REQUIREMENTS FOR SECONDARY BATTERIES
AND BATTERY INSTALLATIONS –****Part 4: Valve-regulated lead-acid batteries
for use in portable appliances**

FOREWORD

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International Standard IEC 62485-4 has been prepared by IEC technical committee 21: Secondary cells and batteries.

This first edition cancels and replaces the first edition of IEC TR 61056-3 published in 1991. It constitutes a technical revision.

This edition includes the following significant technical changes with respect to the IEC TR 61056-3:

- a) updating of the requirements, and harmonisation of the text for consistency with the IEC 62485 series.

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

FDIS	Report on voting
21/848/FDIS	21/850/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.

A list of all parts of the IEC 62485 series can be found, under the general title *Safety requirements for secondary batteries and battery installations*, on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website 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- withdrawn,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.

INTRODUCTION

This standard provides information about the safety and health protection of persons when using valve-regulated lead-acid batteries, which are used as a DC power supply systems in portable appliances. Therefore the standard applies to commercially available valve-regulated lead-acid batteries and battery systems.

IEC 62133 has preference for secondary cells and batteries containing alkaline or other non-acid electrolytes.

In some portable appliances or toys the use of both primary and secondary cells or batteries is possible. Where there is interchangeability of these cells or batteries, the standards for primary batteries in the IEC 60086 series, Parts 1 to 5, have preference.

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SAFETY REQUIREMENTS FOR SECONDARY BATTERIES AND BATTERY INSTALLATIONS –

Part 4: Valve-regulated lead-acid batteries for use in portable appliances

1 Scope

This Part of IEC 62485 applies to the safety aspects associated with the accommodation, the arrangements of circuits and the operation of secondary valve-regulated lead-acid cells and batteries in portable appliances. Requirements are specified which oblige the manufacturers of appliances and secondary batteries to prevent the misuse of batteries in the course of operation to provide protective measures avoiding injury to persons in case of battery failure and to provide sufficient information to users.

This standard does not apply to secondary cells and batteries containing alkaline or other non-acid electrolytes.

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 60050-482:2004, *International Electrotechnical Vocabulary – Part 482: Primary and secondary cells and batteries*

IEC 60417, *Graphical symbols for use on equipment*

IEC 61429:1995, *Marking of secondary cells and batteries with the international recycling symbol ISO 7000-1135*

ISO 7000, *Graphical symbols for use on equipment – Registered symbols*

3 Terms and definitions

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

3.1

Battery for use in portable appliances

Battery mainly used for the power supply of the electrical equipment or parts of it forming an integral, functional unit

Note 1 to entry: Batteries for use in portable equipment are usually maintenance-free types.

3.2

secondary cell

secondary battery

cell being designed to be electrically recharged, forming a basic functional unit providing a source of electrical energy by direct conversion of chemical energy