

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Safety requirements for secondary batteries and battery installations –
Part 3: Traction batteries**

**Exigences de sécurité pour les batteries d'accumulateurs et les installations
de batteries –
Partie 3: Batteries de traction**



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Exigences de sécurité pour les batteries d'accumulateurs et les installations de batteries – Partie 3: Batteries de traction

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AND BATTERY INSTALLATIONS –****Part 3: Traction batteries****FOREWORD**

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International Standard IEC 62485-3 has been prepared by IEC technical committee 21: Secondary cells and batteries.

This second edition cancels and replaces the first edition published in 2010. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) a comprehensive revision of Clause 6, presenting a unified and changed formula for the calculation of the required ventilation air flow during battery charging;
- b) addition of requirements for properties of floor material and battery changing equipment in Clause 9.

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

FDIS	Report on voting
21/834/FDIS	21/843/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 web site 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- withdrawn,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.

SAFETY REQUIREMENTS FOR SECONDARY BATTERIES AND BATTERY INSTALLATIONS –

Part 3: Traction batteries

1 Scope

This part of the IEC 62485 applies to secondary batteries and battery installations used for electric vehicles, e.g. in electric industrial trucks (including lift trucks, tow trucks, cleaning machines, automatic guided vehicles), in battery powered locomotives, in electric vehicles (e.g. goods vehicles, golf carts, bicycles, wheelchairs), and does not cover the design of such vehicles.

This International Standard covers lead dioxide-lead (lead-acid), nickel oxide-cadmium, nickel-oxide-metal hydride and other alkaline secondary batteries. Safety aspects of secondary lithium batteries in such applications will be covered in their own appropriate standards.

The nominal voltages are limited to 1 000 V a.c. and 1 500 V d.c. respectively and the principal measures for protection against hazards generally from electricity, gas emission and electrolyte are described.

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

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 60204-1, *Safety of machinery – Electrical equipment of machines – Part 1: General requirements*

IEC 60364-4-41:2005, *Low-voltage electrical installations – Part 4-41: Protection for safety – Protection against electric shock*

IEC 60900, *Live working – Hand tools for use up to 1 000 V a.c. and 1 500 V d.c.*

IEC 61140, *Protection against electric shock – Common aspects for installation and equipment*

ISO 3864 (all parts), *Graphical symbols – Safety colours and safety signs*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

secondary cell

cell which is designed to be electrically recharged

Note 1 to entry: The recharge is accomplished by way of a reversible chemical reaction.