

# 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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IEC Central Office  
3, rue de Varembé  
CH-1211 Geneva 20  
Switzerland  
Email: [inmail@iec.ch](mailto:inmail@iec.ch)  
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## CONTENTS

FOREWORD .....	4
1 Scope .....	6
2 Normative references .....	6
3 Terms and definitions .....	6
4 Protection against electric shock by the battery and charger .....	8
4.1 General .....	8
4.2 Protection against both direct and indirect contact .....	9
4.3 Protection against direct and indirect contact when discharging the traction battery on the vehicle (battery disconnected from charger/mains) .....	9
4.4 Protection against direct and indirect contact when charging the traction battery .....	10
5 Prevention of short circuits and protection from other effects of electric current .....	10
5.1 Cables and cell connectors .....	10
5.2 Protective measures during maintenance .....	10
5.3 Battery insulation .....	11
5.3.1 General .....	11
6 Provisions against explosion hazards by ventilation .....	11
6.1 Gas generation .....	11
6.2 Ventilation requirements .....	12
6.2.1 General .....	12
6.2.2 Standard formula .....	12
6.2.3 Special formula .....	13
6.2.4 Unconventional chargers .....	14
6.2.5 Multiple charging .....	14
6.3 Natural ventilation .....	14
6.4 Forced ventilation .....	15
6.5 Close vicinity to the battery .....	15
6.6 Ventilation of battery compartment .....	15
7 Provisions against electrolyte hazard .....	15
7.1 Electrolyte and water .....	15
7.2 Protective clothing .....	15
7.3 Accidental contact, "first aid" .....	15
7.3.1 General .....	15
7.3.2 Eye contact .....	16
7.3.3 Skin contact .....	16
7.4 Battery accessories and maintenance tools .....	16
8 Battery containers and enclosures .....	16
9 Accommodation for charging/maintenance .....	16
10 Battery peripheral equipment/accessories .....	17
10.1 Battery monitoring system .....	17
10.2 Central water filling system .....	17
10.2.1 General .....	17
10.2.2 Safety aspects .....	18
10.3 Central degassing systems .....	18
10.4 Thermal management systems .....	18
10.5 Electrolyte agitation system .....	18
10.6 Catalyst vent plugs .....	19

10.7 Connectors (plugs/sockets).....	19
11 Identification labels, warning notices and instructions for use, installation and maintenance .....	19
11.1 Warning labels .....	19
11.2 Identification label.....	19
11.3 Instructions.....	20
11.4 Other labels.....	20
12 Transportation, storage, disposal and environmental aspects .....	20
12.1 Packing and transport.....	20
12.2 Disassembly, disposal, and recycling of batteries .....	20
13 Inspection and monitoring .....	20
Bibliography .....	22
Table 1 – Gas producing current $I_{gas}$ respectively typical end of charge current in A per 100 Ah rated capacity, when charging with IU or IUI-chargers .....	13

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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.

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

FDIS	Report on voting
21/712/FDIS	21/719/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

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## 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 AC and 1 500 V DC respectively and describe the principal measures for protection against hazards generally from electricity, gas emission and electrolyte.

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

#### 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 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**  
**(rechargeable) cell**  
**single cell**

assembly of electrodes and electrolyte which constitutes the basic unit of a secondary battery