

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

This document is a preview generated by EVS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 62485-3:2014 sisaldab Euroopa standardi EN 62485-3:2014 inglisekeelset teksti.	This Estonian standard EVS-EN 62485-3:2014 consists of the English text of the European standard EN 62485-3:2014.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 10.10.2014.	Date of Availability of the European standard is 10.10.2014.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 29.280

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Aru 10, 10317 Tallinn, Eesti; www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:
Aru 10, 10317 Tallinn, Estonia; www.evs.ee; phone 605 5050; e-mail info@evs.ee

EUROPEAN STANDARD

EN 62485-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2014

ICS 29.220.20; 29.220.30; 43.040.10

Supersedes EN 50272-3:2002

English Version

**Safety requirements for secondary batteries and battery installations - Part 3: Traction batteries
(IEC 62485-3:2014)**

Exigences de sécurité pour les batteries d'accumulateurs et les installations de batteries - Partie 3: Batteries de traction
(CEI 62485-3:2014)

Sicherheitsanforderungen an Batterien und Batterieanlagen - Teil 3: Antriebsbatterien für Elektrofahrzeuge
(IEC 62485-3:2014)

This European Standard was approved by CENELEC on 2014-08-14. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

The text of document 21/834/FDIS, future edition 2 of IEC 62485-3, prepared by IEC/TC 21 "Secondary cells and batteries" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62485-3:2014.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2015-05-14
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-08-14

This document supersedes EN 50272-3:2002.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 62485-3:2014 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated :

IEC 61429	NOTE	Harmonized as EN 61429.
-----------	------	-------------------------

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60204-1	-	Safety of machinery - Electrical equipment of machines - Part 1: General requirements	EN 60204-1	-
IEC 60364-4-41 (mod)	2005	Low-voltage electrical installations - Part 4-41: Protection for safety - Protection against electric shock	HD 60364-4-41 + corrigendum Jul.	2007
-	-			2007
IEC 60900	-	Live working - Hand tools for use up to 1 000 V a.c. and 1 500 V d.c.	EN 60900	-
IEC 61140	-	Protection against electric shock - Common aspects for installation and equipment	EN 61140	-
ISO 3864	series	Graphical symbols - Safety colours and safety signs	-	-

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
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 Calculation of the minimum ventilation air flow.....	12
6.2.3 Recommended charging practice.....	13
6.2.4 Special 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".....	16
7.3.1 General.....	16
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.....	18
10.2.1 General.....	18
10.2.2 Safety aspects.....	18
10.3 Central degassing systems.....	18
10.4 Thermal management systems.....	19
10.5 Electrolyte agitation system.....	19
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	20
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.....	21
13	Inspection and monitoring	21
	Bibliography	22
	Table 1 – Guideline: Maximum final charging current in A per 100 Ah during normal conditions of use	14

Table 1 – Guideline: Maximum final charging current in A per 100 Ah during normal conditions of use