## SLOVENSKI STANDARD

### SIST EN 60254-1:2006

januar 2006

Žveplo-kislinske vlečne baterije – 1. del: Splošne zahteve in metode preskušanja (IEC 60254-1:2005)

(istoveten EN 60254-1:2005)

Lead-acid traction batteries - Part 1: General requirements and methods of test (IEC 60254-1:2005)

# iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN 60254-1:2006</u> https://standards.iteh.ai/catalog/standards/sist/a9fd1d79-8d0a-49b9-bb67-e4c430432eae/sist-en-60254-1-2006

ICS 29.220.20

Referenčna številka SIST EN 60254-1:2006(en)

# iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN 60254-1:2006</u> https://standards.iteh.ai/catalog/standards/sist/a9fd1d79-8d0a-49b9-bb67-e4c430432eae/sist-en-60254-1-2006

### **EUROPEAN STANDARD**

### EN 60254-1

## NORME EUROPÉENNE

## **EUROPÄISCHE NORM**

May 2005

ICS 29.220.20

Supersedes EN 60254-1:1997

English version

## Lead-acid traction batteries Part 1: General requirements and methods of test

(IEC 60254-1:2005)

Batteries d'accumulateurs de traction au plomb Partie 1: Exigences générales et méthodes d'essais (CEI 60254-1:2005) Blei-Antriebsbatterien
Teil 1: Allgemeine Anforderungen
und Prüfungen
(IEC 60254-1:2005)

# iTeh STANDARD PREVIEW (standards.iteh.ai)

This European Standard was approved by CENELEC on 2005-05-01. 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.

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

## **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

#### **Foreword**

The text of document 21/619/FDIS, future edition 4 of IEC 60254-1, prepared by IEC TC 21, Secondary cells and batteries, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60254-1 on 2005-05-01.

This European Standard supersedes EN 60254-1:1997.

The principal change is the removal of the original Clause 6 dealing with "Testing procedures for light road vehicle traction batteries", as this is now covered by EN 61982-2. The "high rate discharge test" has been changed from 0,5 h to 1 h and the temperature coefficient of resistance for 1 h discharge included. The opportunity has also been taken to introduce relatively minor revisions where these are now more appropriate due to developments.

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) 2006-02-01

 latest date by which the national standards conflicting with the EN have to be withdrawn

(dow) 2008-05-01

Annex ZA has been added by CENELEC.NDARD PREVIEW (standards.iteh.ai)

SIST EN 60254-1:2006

https://standards.iteh. **Endorsement** snotice) - 8d0a - 49b9 - bb67 -

e4c430432eae/sist-en-60254-1-2006

The text of the International Standard IEC 60254-1:2005 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 61982-2 NOTE Harmonized as EN 61982-2:2002 (not modified).

\_\_\_\_

## Annex ZA (normative)

## Normative references to international publications with their corresponding European publications

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.

NOTE Where an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	EN/HD	<u>Year</u>
IEC 60051	Series	Direct acting indicating analogue electrical measuring instruments and their accessories	EN 60051	Series
IEC 60254-2	1997	Lead-acid traction batteries Part 2: Dimensions of cells and terminals and marking of polarity on cells	EN 60254-2	1997
A1	2000	<b>5</b> . <b>7</b>	A1	2000

# iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN 60254-1:2006</u> https://standards.iteh.ai/catalog/standards/sist/a9fd1d79-8d0a-49b9-bb67-e4c430432eae/sist-en-60254-1-2006

# iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN 60254-1:2006</u> https://standards.iteh.ai/catalog/standards/sist/a9fd1d79-8d0a-49b9-bb67-e4c430432eae/sist-en-60254-1-2006

## NORME INTERNATIONALE INTERNATIONAL STANDARD

CEI IEC 60254-1

Quatrième édition Fourth edition 2005-04

Batteries d'accumulateurs de traction au plomb –

Partie 1:

Exigences générales et méthodes d'essais PREVIEW

(standards.iteh.ai)

Lead-acid traction batteries -

SIST EN 60254-1:2006

https://ppdards/teh.ai/catalog/standards/sist/a9fd1d79-8d0a-49b9-bb67-e4c430432eae/sist-en-60254-1-2006

General requirements and methods of test

© IEC 2005 Droits de reproduction réservés — Copyright - all rights reserved

Aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'éditeur.

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



CODE PRIX
PRICE CODE

M

### CONTENTS

FO	REW	ORD	5				
1	Scor	be and object	9				
2		lormative references					
3							
J		ctional characteristics					
	3.1	Capacity (for the test, see 5.2)					
	3.2	Charge retention (for the test, see 5.3)					
	3.3	High-rate discharge performance (for the test, see 5.4)					
	3.4	Cyclic endurance (for the test, see 5.5)	11				
4	Gen	eral test conditions	11				
	4.1	Accuracy of measuring instruments (see IEC 60051)	11				
	4.2	Preparation and maintenance of the test cells or batteries	13				
	4.3	Characteristics of a fully charged cell or battery (unless the state of a fully charged battery is otherwise stated by the manufacturer)	15				
5	Test	ing procedure					
	5.1	Sequence of performance of the tests					
	5.2	Capacity test					
	5.3	Charge retention test. T.A.N.D.A.R.D. P.R.E.V.I.E.W.					
	5.4	High-rate discharge performance test	19				
	5.5	Cyclic endurance test (Standards.iteh.ai)	19				
6	Spec	cific values					
	6.1	SIST EN 60254-1:2006	23				
	0.1	Energy density	23				
		e4c430432eae/sist-en-60254-1-2006					
Bib	Bibliography						

#### INTERNATIONAL ELECTROTECHNICAL COMMISSION

#### **LEAD-ACID TRACTION BATTERIES -**

### Part 1: General requirements and methods of test

#### **FOREWORD**

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international
  consensus of opinion on the relevant subjects since each technical committee has representation from all
  interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter
- 5) IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an EC Publication dd 479-840a-49b9-bb67-
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60254-1 has been prepared by IEC technical committee 21: Secondary cells and batteries.

This fourth edition cancels and replaces the third edition, published in 1997, and constitutes a technical revision. The principal change in this edition is the removal of the original Clause 6 dealing with "Testing procedures for light road vehicle traction batteries", as this is now covered by IEC 61982-2. The "high rate discharge test" has been changed from 0,5 h to 1 h and the temperature co-efficient of resistance for 1h discharge included. The opportunity has also been taken to introduce relatively minor revisions where these are now more appropriate due to developments.