
General purpose lead-acid batteries (valve regulated types) - Part 1: General requirements, functional characteristics - Methods of test

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EUROPEAN STANDARD

EN 61056-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2003

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Supersedes EN 61056-1:1993

English version

**General purpose lead-acid batteries (valve regulated types)
Part 1: General requirements, functional characteristics -
Methods of test
(IEC 61056-1:2002)**

Batteries d'accumulateurs au plomb-acide
pour usage général (types à soupapes)
Partie 1: Prescriptions générales et
caractéristiques fonctionnelles -
Méthodes d'essai
(CEI 61056-1:2002)

Bleibatterien für allgemeine
Anwendungen (verschlossen)
Teil 1: Allgemeine Anforderungen,
Eigenschaften -
Prüfverfahren
(IEC 61056-1:2002)

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This European Standard was approved by CENELEC on 2002-12-01. 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, 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 21/568/FDIS, future edition 2 of IEC 61056-1, prepared by IEC TC 21, Secondary cells and batteries, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61056-1 on 2002-12-01.

This European Standard supersedes EN 61056-1:1993.

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) 2003-09-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2005-12-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61056-1:2002 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60051-1	NOTE	Harmonized as EN 60051-1:1998 (not modified).
IEC 60051-2	NOTE	Harmonized as EN 60051-2:1989 (not modified).
IEC 60095	NOTE	Harmonized as EN 50342:2001 and in EN 60095 series (modified).
IEC 60254	NOTE	Harmonized in EN 60254 series (not modified).
IEC 60359	NOTE	Harmonized as EN 60359:2002 (not modified).
IEC 60896	NOTE	Harmonized in EN 60896 series (not modified).

Annex ZA
(normative)

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

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE When 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>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-486	- 1)	International Electrotechnical Vocabulary (IEV) Chapter 486: Secondary cells and batteries	-	-
IEC 60417	Series	Graphical symbols for use on equipment	EN 60417	Series

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1) Undated reference.

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Deuxième édition
Second edition
2002-10

**Batteries d'accumulateurs au plomb-acide
pour usage général (types à soupapes) –**

**Partie 1:
Prescriptions générales et caractéristiques
fonctionnelles – Méthode d'essai**

(standards.iteh.ai)

**General purpose lead-acid batteries
(valve-regulated types) –**

**Part 1:
General requirements, functional
characteristics – Methods of test**

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International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**GENERAL PURPOSE LEAD-ACID BATTERIES
(VALVE-REGULATED TYPES) –**
**Part 1: General requirements, functional characteristics –
Methods of test**

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the 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 National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this international standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61056-1 has been prepared by IEC technical committee 21: Secondary cells and batteries.

This second edition cancels and replaces the first edition, published in 1991, and constitutes a technical revision.

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

FDIS	Report on voting
21/568/FDIS	21/573/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 3.

IEC 61056 séries, published under the general title *General purpose lead-acid batteries (valve-regulated types)* consists of the following parts:

- Part 1: *General requirements – Methods of test*
- Part 2: *Dimensions, terminals and marking*
- Part 3: *Safety recommendations for use in electric appliances*¹

The committee has decided that the contents of this publication will remain unchanged until 2009. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

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¹ Published in 1991, IEC/TR 61056-3 bears the general title *Portable lead-acid cells and batteries (valve-regulated types)*.

GENERAL PURPOSE LEAD-ACID BATTERIES (VALVE-REGULATED TYPES) –

Part 1: General requirements, functional characteristics – Methods of test

1 Scope and object

This part of IEC 61056 specifies the general requirements, functional characteristics and methods of test

- for all general purpose lead-acid cells and batteries of the valve-regulated type
 - for either cyclic or float charge application;
 - in portable equipment, for instance, incorporated in tools, toys, or in static emergency, or uninterruptible power supply and general power supplies.

The cells of this kind of lead-acid battery may either have flat-plate electrodes in prismatic containers or have spirally wound pairs of electrodes in cylindrical containers. The sulphuric acid in these cells is immobilized between the electrodes either by absorption in a micro-porous structure or in a gelled form.

NOTE The dimensions, terminals and marking of the lead-acid cells and batteries which are applied by this standard are given in IEC 61056-2.

This part of IEC 61056 does not apply for example to lead-acid cells and batteries used for

- vehicle engine starting applications (IEC 60095 series),
- traction applications (IEC 60254 series), or
- stationary applications (IEC 60896 series).

Conformance to this standard requires that statements and claims of basic performance data by the manufacturer shall correspond to these test procedures. The tests may also be used for type qualification.

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 60050(486), *International Electrotechnical Vocabulary (IEV) – Chapter 486: Secondary cells and batteries*

IEC 60417 (all parts), *Graphical symbols for use on equipment*