



SLOVENSKI STANDARD
SIST EN 60285:1997

01-februar-1997

Alkaline secondary cells and batteries - Sealed nickel-cadmium cylindrical rechargeable single cells

Alkaline secondary cells and batteries - Sealed nickel-cadmium cylindrical rechargeable single cells

Alkalische Sekundärzellen und Batterien - Gasdichte zylindrische wiederaufladbare Nickel-Cadmium-Einzelnzellen

Accumulateurs alcalins - Eléments individuels cylindriques rechargeables étanches au nickel-cadmium

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Ta slovenski standard je istoveten z: EN 60285:1994

ICS:

29.220.30 Alkaline secondary cells and batteries

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EUROPEAN STANDARD
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EUROPÄISCHE NORM

EN 60285

December 1994

ICS 29.220.30

Supersedes HD 201 S2:1991 + HD 201/1 S1:1991

Descriptors: Alkaline batteries, nickel-cadmium batteries, specifications, tests, overload protection

English version

**Alkaline secondary cells and batteries
Sealed nickel-cadmium cylindrical
rechargeable single cells
(IEC 285:1993 + corrigendum 1993)**

Accumulateurs alcalins
Eléments individuels cylindriques
rechargeables étanches au
nickel-cadmium
(CEI 285:1993 + corrigendum 1993)

Alkalische Sekundärzellen und Batterien
Gasdichte zylindrische wiederaufladbare
Nickel-Cadmium-Einzelzellen
(IEC 285:1993 + Corrigendum 1993)

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This European Standard was approved by CENELEC on 1994-03-08. 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, 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 21A(CO)76, future edition 3 of IEC 285, prepared by SC 21A, Alkaline secondary cells and batteries, of IEC TC 21, Secondary cells and batteries, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60285 on 1993-03-09.

As the published IEC 285 also contained 21A(CO)74, which had not been submitted to the parallel vote, the 77th Technical Board of CENELEC decided to submit the contents of this document to the formal vote as prA11 to be combined with EN 60285.

The resulting EN 60285 was approved by CENELEC on 1994-03-08.

This European Standard supersedes HD 201 S2:1991 and HD 201/1 S1:1991.

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) 1995-07-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 1995-07-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.

Annexes ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 285:1993 and its corrigendum August 1993 was approved by CENELEC as a European Standard without any modification.

ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD
WITH THE REFERENCES OF THE RELEVANT 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.

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

IEC Publication -----	Date -----	Title -----	EN/HD -----	Date -----
51	series	Direct acting indicating analogue electrical-measuring instruments and their accessories	EN 60051	series
68-2-29	1987	Environmental testing - Part 2: Tests Test Eb and guidance: Bump	EN 60068-2-29*	1993
86	series	Primary batteries	HD 211	series
410	1973	Sampling plans and procedures for inspection by attributes	-	-
485	1974	Digital electronic d.c. voltmeters and d.c. electronic analogue-to-digital converters	-	-

* EN 60068-2-29 includes a corrigendum to IEC 68-2-29

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Troisième édition
Third edition
1993-07

Accumulateurs alcalins –

Éléments individuels cylindriques
rechargeables étanches au nickel-cadmium

iTeh STANDARD PREVIEW

Alkaline secondary cells and batteries –

Sealed nickel-cadmium cylindrical
rechargeable single cells

<https://standards.iteh.ai/catalog/standards/sist/ac/6589c-924f-45e8-9288-83cc02571eb5/sist-en-60285-1997>

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International Electrotechnical Commission
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CONTENTS

	Page
FOREWORD	5
Clause	
Section 1: General	
1.1 Scope	7
1.2 Normative references	7
1.3 Definitions	7
1.4 Measuring instruments	9
Section 2: Designation and marking	
2.1 Cell designation	9
2.2 Cell termination	11
2.3 Marking	13
Section 3: Dimensions	
3.1 Dimensions	15
Section 4: Electrical tests	
4.1 Charging procedure for test purposes	17
4.2 Discharge performance	19
4.3 Charge retention	21
4.4 Endurance	21
4.5 Charge acceptance at constant voltage	27
4.6 Overcharge	27
4.7 Safety device operation	29
4.8 Storage	31
4.9 Charge efficiency at +40 °C	31
4.10 Internal resistance	33
Section 5: Mechanical tests	
5.1 Bump test	35
Section 6: Conditions for approval and acceptance	
6.1 Type approval	37
6.2 Batch acceptance	39

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ALKALINE SECONDARY CELLS AND BATTERIES –

Sealed nickel-cadmium cylindrical rechargeable single cells

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 cooperation 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, prepared by technical committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 3) They have the form of recommendations for international use published in the form of standards, 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.

International Standard IEC 285 has been prepared by sub-committee 21A: Alkaline secondary cells and batteries, of IEC technical committee 21: Secondary cells and batteries.

This third edition cancels and replaces the second edition published in 1983 and the first edition of IEC 285/1 published in 1989 and of which it constitutes a minor revision.

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

DIS	Reports on Voting
21A(CO)74 21A(CO)76	21A(CO)79 21A(CO)80

Full information on the voting for the approval of this standard can be found in the reports on voting indicated in the above table.

ALKALINE SECONDARY CELLS AND BATTERIES –

Sealed nickel-cadmium cylindrical rechargeable single cells

Section 1: General

1.1 Scope

This International Standard specifies tests and requirements for sealed nickel-cadmium cylindrical rechargeable single cells, suitable for use in any orientation. Specific tests and requirements for cells intended for use in permanent charge at elevated temperatures are also included.

1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

(standards.iteh.ai)

IEC 51, *Direct acting indicating analogue electrical measuring instruments and their accessories*

[SIST EN 60285:1997](https://standards.iteh.ai/catalog/standards/sist/acf6589c-924f-45e8-9288-83ce02571eb5/sist-en-60285-1997)

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IEC 68-2-29: 1987, *Environmental testing – Part 2: Tests – Test Eb and guidance: Bump*

IEC 86, *Primary batteries*

IEC 410: 1973, *Sampling plans and procedures for inspection by attributes*

IEC 485: 1974, *Digital electronic d.c. voltmeters and d.c. electronic analogue-to-digital converters*

1.3 Definitions

For the purpose of this International Standard, the following definitions apply.

1.3.1 sealed cell: A cell which remains closed and does not release either gas or liquid when operated within the limits of charge and temperature specified by the manufacturer. The cell may be equipped with a safety device to prevent dangerously high internal pressure. The cell does not require addition to the electrolyte and is designed to operate during its life in its original sealed state.

1.3.2 nominal voltage: The nominal voltage of a single-sealed nickel-cadmium cylindrical rechargeable cell is 1,2 V.

1.3.3 **rated capacity:** The quantity of electricity C_5 in Ah (ampere hours) declared by the manufacturer which a single cell can deliver at the 5 h discharge rate to a final voltage of 1,0 V at +20 °C after charging, storing and discharging under the conditions specified in section 4.

1.4 Measuring instruments

The measuring instruments used for the tests shall be selected according to the magnitude of the parameters to be measured. Equipment shall be regularly calibrated to ensure that it shall at all times have the degree of accuracy given below.

1.4.1 Voltage measurement

The instruments used for voltage measurement shall be voltmeters having an accuracy class of 0,5 or better as defined in IEC 51 for analogue instruments and IEC 485 for digital instruments.

The resistance of voltmeters shall be at least 10 k Ω /V.

1.4.2 Current measurement

The instruments used for current measurement shall be ammeters having an accuracy class of 0,5 or better as defined in IEC 51 for analogue instruments. Digital instruments shall be of the same accuracy. This accuracy class shall be maintained for the assembly of ammeter, shunt and leads.

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1.4.3 Temperature measurement

The instruments used for temperature measurement shall be thermometers having a graduated or digital scale in which the value of each graduation or digit is not in excess of 1 °C.

The absolute accuracy of the instrument shall be 0,5 °C or better.

1.4.4 Time measurement

Time measurement shall be to an accuracy of 0,1 % or better.

Section 2: Designation and marking

2.1 Cell designation

Sealed nickel-cadmium cylindrical rechargeable single cells shall be designated by the letters "KR" followed by a letter L, M, H or X which signifies whether the cell is designed for low (L)*, medium (M)*, high (H)* or very high (X)* rates of discharge, followed by two groups of figures separated by a solidus. When a cell is intended for permanent charge at

* These types of cells are recommended but not exclusively used for the following discharge rates:

- L typically up to 0,5 C_5A ;
- M typically above 0,5 C_5A and up to 3,5 C_5A ;
- H typically above 3,5 C_5A and up to 7 C_5A ;
- X typically above 7 C_5A and up to 15 C_5A .