

**SLOVENSKI
STANDARD**

SIST EN 60086-2:2002/A1:2002

prva izdaja
september 2002

Primary batteries - Part 2: Physical and electrical specifications

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ICS 29.220.10

Referenčna številka
SIST EN 60086-2:2002/A1:2002(en)

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EUROPEAN STANDARD

EN 60086-2/A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2001

ICS 29.220.10

English version

Primary batteries
Part 2: Physical and electrical specifications
(IEC 60086-2:2000/A1:2001)

Piles électriques
Partie 2: Spécifications physiques et
électriques
(CEI 60086-2:2000/A1:2001)

Primärbatterien
Teil 2: Physikalische und elektrische
Spezifikationen
(IEC 60086-2:2000/A1:2001)

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This amendment A1 modifies the European Standard EN 60086-2:2001; it was approved by CENELEC on 2001-10-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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, Iceland, Ireland, Italy, Luxembourg, Malta, 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 35/1157/FDIS, future amendment 1 to IEC 60086-2:2000, prepared by IEC TC 35, Primary cells and batteries, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 60086-2:2001 on 2001-10-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2002-07-01
- latest date by which the national standards conflicting
with the amendment have to be withdrawn (dow) 2004-10-01

Endorsement notice

The text of amendment 1:2001 to the International Standard IEC 60086-2:2000 was approved by CENELEC as an amendment to the European Standard without any modification.

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INTERNATIONAL STANDARD

IEC 60086-2

2000

AMENDMENT 1
2001-07

Amendment 1

Primary batteries –

**Part 2:
Physical and electrical specifications**

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SIST EN 60086-2:2002/A1:2002

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International Electrotechnical Commission 3, rue de Varembé Geneva, Switzerland
Telefax: +41 22 919 0300 e-mail: inmail@iec.ch IEC web site <http://www.iec.ch>



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE

G

For price, see current catalogue

FOREWORD

This amendment has been prepared by IEC technical committee 35: Primary cells and batteries.

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

| | |
|--------------|------------------|
| FDIS | Report on voting |
| 35/1157/FDIS | 35/1163/RVD |

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

The committee has decided that the contents of the base publication and its amendments will remain unchanged until 2002. At this date, the publication will be

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

A bilingual version of this amendment may be issued at a later date.

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[https://standards.iteh.ai/catalog/standards/sist/b0c2ca3c-b59e-471a-a12f-](https://standards.iteh.ai/catalog/standards/sist/b0c2ca3c-b59e-471a-a12f-ed12572afb83/sist-en-60086-2-2003-a1-2002)

This amendment replaces the data corresponding to R03, R6C, R6P, R6S, R14C, R14P, R14S, R20C, R20P, R20S, LR03, LR6, LR14, LR20, 6F22, 6LR61.

Replace pages 11, 12, 13, 14 and 41 of IEC 60086-2, tenth edition, by the following new pages:

| PHYSICAL AND ELECTRICAL SPECIFICATIONS | | | | | | | | | | | CATEGORY 1 BATTERIES | | | | | |
|--|------------------------|---------|------------------|------|------|------|------|------|------|------|----------------------|----------------------|-----------------------------|---------|-------------------------------|--|
| Electro-chemical system | Designation | Vn V | Dimensions mm | | | | | | | | | Discharge conditions | | | MAD ^a (initial) | Applications |
| | | | A | B | C | E | F | G | ∅ | | ∅P | R Ω | Daily period | EV V | | |
| | | | Max. | Min. | Min. | Max. | Max. | Min. | Max. | Min. | Max. | | | | | |
| (see note) | R1 | 1,5 | 30,2 | 29,1 | 5,0 | 0,2 | 4,0 | 0,5 | 12,0 | 10,9 | 0,5 | 300 | 12 h | 0,9 | 76 h | Hearing aids |
| | | | | | | | | | | | | | 5,1 | 5 min | 0,9 | 57 min |
| | R03 | 1,5 | 44,5 | 43,3 | 4,3 | 0,5 | 3,8 | 0,8 | 10,5 | 9,5 | 0,4 | 5,1 | b | 0,9 | 45 min | Portable lighting |
| | | | | | | | | | | | | 10 | 1 h | 0,9 | 1,4 h | Personal cassette player and tape recorder |
| | | | | | | | | | | | | 75 | 4 h | 0,9 | 20 h | Radio |
| | | | | | | | | | | | | 24 | 15 s per min 8 h per day | 1,0 | 4 h | Remote control |
| | | | | | | | | | | | | 3,6 | c | 0,9 | 120 pulses | Pulse test |
| | R6C (high capacity) | 1,5 | 50,5 | 49,2 | 7,0 | 0,5 | 5,5 | 1,0 | 14,5 | 13,5 | 0,5 | 43 | 4 h | 0,9 | 25 h | Radio |
| | | | | | | | | | | | | 3,9 | 1 h | 0,8 | 47 min | Motor/toy |
| | | | | | | | | | | | | 10 | 1 h | 0,9 | 3,5 h | Personal cassette player and tape recorder |
| | | | | | | | | | | | | 24 | 15 s per min 8 h per day | 1,0 | 10,9 h | Remote control |
| | | | | | | | | | | | | 1,8 | c | 0,9 | 46 pulses | Pulse test |
| | R6P (high power) | 1,5 | 50,5 | 49,2 | 7,0 | 0,5 | 5,5 | 1,0 | 14,5 | 13,5 | 0,5 | 43 | 4 h | 0,9 | 27 h | Radio |
| | | | | | | | | | | | | 3,9 | 1 h | 0,8 | 60 min | Motor/toy |
| | | | | | | | | | | | | 10 | 1 h | 0,9 | 4,1 h | Personal cassette player and tape recorder |
| | | | | | | | | | | | | 24 | 15 s per min 8 h per day | 1,0 | 11 h | Remote control |
| | | | | | | | | | | | | 1,8 | c | 0,9 | 75 pulses | Pulse test |
| | R6S (standard) | 1,5 | 50,5 | 49,2 | 7,0 | 0,5 | 5,5 | 1,0 | 14,5 | 13,5 | 0,5 | 43 | 4 h | 0,9 | 22 h | Radio |

NOTE Delayed discharge performance after 12 months is 80 % of MAD.

a Standard conditions.
b 4 min beginning at hourly intervals for 8 h per day.
c 15 s on, 45 s off for 24 h per day.

| PHYSICAL AND ELECTRICAL SPECIFICATIONS | | | | | | | | | | | CATEGORY 1 BATTERIES | | | | | |
|--|-------------------------|---------|------------------|------|------|------|------|------|------|------|----------------------|---------------------------------|--------------|---------|-------------------------------|-----------------------|
| Electro-chemical system | Designation | Vn V | Dimensions mm | | | | | | | | | Discharge conditions | | | MAD ^a (initial) | Applications |
| | | | A | B | C | E | F | G | Ø | | ØP | R Ω | Daily period | EV V | | |
| | | | Max. | Min. | Min. | Max. | Max. | Min. | Max. | Min. | Max. | | | | | |
| (see note) | R14C (high capacity) | 1,5 | 50,0 | 48,6 | 13,0 | 0,9 | 7,5 | 1,5 | 26,2 | 24,9 | 1,0 | 3,9 | b | 0,9 | 250 min | Portable lighting |
| | | | | | | | | | | | | 6,8 | 1 h | 0,9 | 7 h | Tape recorders |
| | | | | | | | | | | | | 20 | 4 h | 0,9 | 25 h | Radio |
| | | | | | | | | | | | | 3,9 | 1 h | 0,8 | 2,5 h | Toy |
| | R14P (high power) | 1,5 | 50,0 | 48,6 | 13,0 | 0,9 | 7,5 | 1,5 | 26,2 | 24,9 | 1,0 | 3,9 | b | 0,9 | 300 min | Portable lighting |
| | | | | | | | | | | | | 6,8 | 1 h | 0,9 | 9 h | Tape recorders |
| | | | | | | | | | | | | 20 | 4 h | 0,9 | 30 h | Radio |
| | | | | | | | | | | | | 3,9 | 1 h | 0,8 | 4,8 h | Toy |
| | R14S (standard) | 1,5 | 50,0 | 48,6 | 13,0 | 0,9 | 7,5 | 1,5 | 26,2 | 24,9 | 1,0 | 3,9 | b | 0,9 | 120 min | Portable lighting |
| | | | | | | | | | | | | 6,8 | 1 h | 0,9 | 3,0 h | Tape recorders |
| | | | | | | | | | | | | 20 | 4 h | 0,9 | 15 h | Radio |
| | | | | | | | | | | | | 3,9 | 1 h | 0,8 | 1,5 h | Toy |
| | R20C (high capacity) | 1,5 | 61,5 | 59,5 | 18,0 | 1,0 | 9,5 | 1,5 | 34,2 | 32,3 | 1,0 | 2,2 | b | 0,9 | 300 min | Portable lighting (1) |
| | | | | | | | | | | | | 3,9 | 1 h | 0,9 | 9 h | Tape recorders |
| | | | | | | | | | | | | 10 | 4 h | 0,9 | 30 h | Radio |
| | | | | | | | | | | | | 2,2 | 1 h | 0,8 | 4 h | Toy |
| 1,5 | | | | | | | | | | | | 4 min per 15 min 8 h per day | 0,9 | 130 min | Portable lighting (2) | |

NOTE Delayed discharge performance after 12 months is 80% of MAD.

a Standard conditions.

b 4 min beginning at hourly intervals for 8 h per day.

| PHYSICAL AND ELECTRICAL SPECIFICATIONS | | | | | | | | | | | CATEGORY 1 BATTERIES | | | | | | |
|--|--|---------|------------------|------|------|------------------|------|------|------|------|----------------------|----------------------|---------------------------------|-------|-------------------------------|-----------------------|---------------|
| Electro-chemical system | Designation | Vn V | Dimensions mm | | | | | | | | | Discharge conditions | | | MAD ^a (initial) | Applications | |
| | | | A | B | C | E | F | G | ∅ | | ∅P | R | Daily period | EV | | | |
| | | | Max. | Min. | Min. | Max. | Max. | Min. | Max. | Min. | Max. | Ω | | V | | | |
| (see note 1) | R20P (high power) | 1,5 | 61,5 | 59,5 | 18,0 | 1,0 | 9,5 | 1,5 | 34,2 | 32,3 | 1,0 | 2,2 | b | 0,9 | 320 min | Portable lighting | |
| | | | | | | | | | | | | 3,9 | 1 h | 0,9 | 13 h | Tape recorders | |
| | | | | | | | | | | | | 10 | 4 h | 0,9 | 35 h | Transistor radios | |
| | | | | | | | | | | | | 2,2 | 1 h | 0,8 | 6 h | Toys | |
| | | | | | | | | | | | | 1,5 | 4 min per 15 min 8 h per day | 0,9 | 137 min | Portable lighting (2) | |
| | R20S (standard) | 1,5 | 61,5 | 59,5 | 18,0 | 1,0 | 9,5 | 1,5 | 34,2 | 32,3 | 1,0 | 2,2 | b | 0,9 | 100 min | Portable lighting | |
| | | | | | | | | | | | | 3,9 | 1 h | 0,9 | 4 h | Tape recorders | |
| | | | | | | | | | | | | 10 | 4 h | 0,9 | 18 h | Transistor radios | |
| | | | | | | | | | | | | 2,2 | 1 h | 0,8 | 2 h | Toys | |
| | | | | | | | | | | | | 1,5 | 4 min per 15 min 8 h per day | 0,9 | 32 min | Portable lighting (2) | |
| | 2R10 | 3,0 | 74,6 | 71,5 | 9,0 | 0,8 | 6,8 | 1,0 | 21,8 | 20,0 | | 6,8 | 5 min | 1,8 | 85 min | Portable lighting | |
| | NOTE 1 Delayed discharge performance after 12 months is 80 % of MAD. | | | | | | | | | | | | | | | | |
| | (see note 2) | LR8D425 | 1,5 | 42,5 | 41,5 | 2,3 ^c | 0,1 | 3,8 | 0,7 | 8,3 | 7,7 | 0,1 | 5,1 | 5 min | 0,9 | 90 min | Lighting |
| | | | | | | | | | | | | | 75 | 1 h | 1,1 | 22 h | Laser pointer |
| 75 | | | | | | | | | | | | | 1 h | 0,9 | 27 h | Service output test | |
| LR1 | | 1,5 | 30,2 | 29,4 | 5,0 | 0,2 | 4,0 | 0,5 | 12,0 | 10,9 | 0,5 | 300 | 12 h | 0,9 | 130 h | Hearing aids | |
| | | | | | | | | | | | | 5,1 | 5 min | 0,9 | 94 min | Portable lighting | |
| | | | | | | | | | | | | 3 000 | d | 0,9 | 888 h | Paging test | |
| NOTE 2 Delayed discharge performance after 12 months is 90 % of MAD. | | | | | | | | | | | | | | | | | |
| ^a Standard conditions. | | | | | | | | | | | | | | | | | |
| ^b 4 min beginning at hourly intervals for 8 h per day. | | | | | | | | | | | | | | | | | |
| ^c This battery does not fulfil the requirement C > F due to constructional constraints. | | | | | | | | | | | | | | | | | |
| ^d 24 h per day, plus 10 Ω for 5 s at hourly intervals for 24 h per day. | | | | | | | | | | | | | | | | | |