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Standards

Irish Standard  
I.S. EN 60086-2:2016

# Primary batteries - Part 2: Physical and electrical specifications

**I.S. EN 60086-2:2016**

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I.S. EN 60086-2:2016 is the adopted Irish version of the European Document EN 60086-2:2016, Primary batteries - Part 2: Physical and electrical specifications

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EUROPEAN STANDARD

**EN 60086-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2016

ICS 29.220.10

Supersedes EN 60086-2:2011

English Version

## Primary batteries - Part 2: Physical and electrical specifications (IEC 60086-2:2015)

Piles électriques - Partie 2: Spécifications physiques et  
électriques  
(IEC 60086-2:2015)

Primärbatterien - Teil 2: Physikalische und elektrische  
Spezifikationen  
(IEC 60086-2:2015)

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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**

**EN 60086-2:2016**

**European foreword**

The text of document 35/1350/FDIS, future edition 13 of IEC 60086-2, prepared by IEC/TC 35 "Primary cells and batteries" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60086-2:2016.

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) 2016-09-03
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2018-12-03

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

IEC 60086-3	NOTE	Harmonized as EN 60086-3.
IEC 60086-4	NOTE	Harmonized as EN 60086-4.
IEC 60086-5	NOTE	Harmonized as EN 60086-5.
IEC 62281	NOTE	Harmonized as EN 62281.

## **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](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60086-1	2015	Primary batteries - Part 1: General	EN 60086-1	2015
ISO 1101	-	Geometrical product specifications (GPS) - Geometrical tolerancing - Tolerances of form, orientation, location and run-out	-EN ISO 1101	-

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**IEC 60086-2**

Edition 13.0 2015-10

# **INTERNATIONAL STANDARD**

# **NORME INTERNATIONALE**

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**Primary batteries –  
Part 2: Physical and electrical specifications**

**Piles électriques –  
Partie 2: Spécifications physiques et électriques**





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**IEC 60086-2**

Edition 13.0 2015-10

# **INTERNATIONAL STANDARD**

# **NORME INTERNATIONALE**

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**Primary batteries –  
Part 2: Physical and electrical specifications**

**Piles électriques –  
Partie 2: Spécifications physiques et électriques**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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### **PRIMARY BATTERIES –**

#### **Part 2: Physical and electrical specifications**

#### **FOREWORD**

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International Standard IEC 60086-2 has been prepared by IEC technical committee 35: Primary cells and batteries.

This thirteenth edition cancels and replaces the twelfth edition (2011) and constitutes a technical revision.

Significant changes from the previous edition are test changes to battery types R03, LR03, R6, LR6, PR70, PR41, PR48, 6F22, 6LR61, 6LP3146 4LR25-2, R14, LR14, R20, LR20, CR2025, and CR2032, adding the 5AR40 back into the standard, addition of common designations, addition of two new battery types FR14505 and FR10G445, deletion of battery types LR53, R40, 2EP3863, 6F100, and general editorial changes.

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

FDIS	Report on voting
35/1350/FDIS	35/1352/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 2.

A list of all parts in the IEC 60086 series, under the general title *Primary batteries*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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



## INTRODUCTION

The technical content of this part of IEC 60086 provides physical dimensions, discharge test conditions and discharge performance requirements. IEC 60086-2 complements the general information and requirements of IEC 60086-1.

This part was prepared to benefit primary battery users, device designers and battery manufacturers by furnishing the specifics of form, fit and function for individual standardized primary cells and batteries. Over the years, this part has been changed to improve its contents and may again be revised in due course in the light of comments made by national committees and experts on the basis of practical experience and changing technology.

This current revision is the result of a reformatting initiative, as well as some content changes, aimed at making this part more user-friendly, less ambiguous, and, from a cross reference basis, fully harmonized with other parts of IEC 60086.

NOTE Safety information is available in IEC 60086-4, IEC 60086-5 and IEC 62281.

## PRIMARY BATTERIES –

### Part 2: Physical and electrical specifications

#### 1 Scope

This part of IEC 60086 is applicable to primary batteries based on standardized electro-chemical systems.

It specifies

- the physical dimensions,
- the discharge test conditions and discharge performance requirements.

#### 2 Normative references

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.

IEC 60086-1:2015, *Primary batteries – Part 1: General*

ISO 1101, *Geometrical product specifications (GPS) – Geometrical tolerancing – Tolerances of form, orientation, location and run-out*

#### 3 Terms, definitions, symbols and abbreviations

For the purposes of this document, the terms, definitions, symbols and abbreviations given in IEC 60086-1 and the following apply.

##### 3.1 Terms and definitions

###### 3.1.1

###### **application test**

simulation of the actual use of a battery in a specific application

###### 3.1.2

###### **closed-circuit voltage**

###### **CCV**

voltage across the terminals of a battery when it is on discharge

###### 3.1.3

###### **end-point voltage**

###### **EV**

specified voltage of a battery at which the battery discharge is terminated

[SOURCE: IEC 60050-482:2004, 482-03-30]

###### 3.1.4

###### **minimum average duration**

###### **MAD**

minimum average time on discharge which is met by a sample of batteries

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