



IEC 60086-3

Edition 4.0 2016-05

REDLINE VERSION



**Primary batteries –
Part 3: Watch batteries**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 29.220.10; 39.040.10

ISBN 978-2-8322-3439-6

Warning! Make sure that you obtained this publication from an authorized distributor.

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references.....	7
3 Terms and definitions	7
4 Physical requirements.....	8
4.1 Battery dimensions, symbols and size codes	8
4.2 Terminals.....	10
4.3 Projection of the negative terminal (h_5).....	10
4.4 Shape of negative terminal.....	10
4.5 Mechanical resistance to pressure.....	11
4.6 Deformation	11
4.7 Leakage.....	11
4.8 Marking.....	12
4.8.1 General	12
4.8.2 Disposal	12
5 Electrical requirements	12
5.1 Electrochemical system, nominal voltage, end-point voltage and open-circuit voltage.....	12
5.2 Closed circuit voltage U_{CC} (CCV), internal resistance and impedance.....	13
5.3 Capacity	13
5.4 Capacity retention	13
6 Sampling and quality assurance.....	13
6.1 General.....	13
6.2 Sampling.....	13
6.2.1 Testing by attributes.....	13
6.2.2 Testing by variables	13
6.3 Product quality indices	13
7 Test methods.....	14
7.1 Shape and dimensions	14
7.1.1 Shape requirement.....	14
7.2 Electrical characteristics.....	14
7.2.1 Environmental conditions	14
7.2.2 Equivalent circuit – effective internal resistance – DC method.....	14
7.2.3 Equipment	15
7.2.4 Measurement of open-circuit voltage U_{OC} (OCV) and closed circuit voltage U_{CC} (CCV)	16
7.2.5 Calculation of the internal resistance R_i	17
7.2.6 Measurement of the capacity.....	17
7.2.7 Calculation of the internal resistance R_i during discharge in case of method A (optional).....	19
7.3 Test methods for determining the resistance to leakage	21
7.3.1 Preconditioning and previous initial visual examination	21
7.3.2 High temperature and humidity test	21
7.3.3 Test by temperature cycles	21
8 Visual examination and acceptance conditions	22

8.1	Preconditioning	22
8.2	Magnification	22
8.3	Lighting.....	22
8.4	Leakage levels and classification.....	22
8.5	Acceptance conditions.....	24
Annex A (normative) Designation		25
Bibliography		26
Figure 1	– Dimensional drawing	8
Figure 2	– Shape of negative terminal	11
Figure 3	– Shape requirement.....	14
Figure 4	– Schematic voltage transient.....	15
Figure 5	– Curve: $U = f(t)$	16
Figure 6	– Circuitry principle	16
Figure 7	– Circuitry principle for method A.....	18
Figure 8	– Circuitry principle for method B.....	19
Figure 9	– Test by temperature cycles.....	21
Table 1	– Dimensions and size codes.....	9
Table 2	– Dimensions and size codes.....	10
Table 3	– Minimum values of I_1	11
Table 4	– Applied force F by battery dimensions.....	11
Table 5	– Standardised electrochemical systems.....	12
Table 6	– Test method for U_{CC} (CCV) measurement	17
Table 7	– Test method A for U_{CC} (CCV) measurement	18
Table 8	– Discharge resistance (values).....	20
Table 9	– Storage conditions for the recommended test.....	21
Table 10	– Storage conditions for optional test	21
Table 11	– Leakage levels and classification (1 of 2)	23

INTERNATIONAL ELECTROTECHNICAL COMMISSION

PRIMARY BATTERIES –

Part 3: Watch batteries

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.
- 2) 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 itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 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.

DISCLAIMER

This Redline version is not an official IEC Standard and is intended only to provide the user with an indication of what changes have been made to the previous version. Only the current version of the standard is to be considered the official document.

This Redline version provides you with a quick and easy way to compare all the changes between this standard and its previous edition. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

International Standard IEC 60086-3 has been prepared by IEC technical committee 35: Primary cells and batteries, and ISO technical committee 114: Horology.

This fourth edition cancels and replaces the third edition published in 2011. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) A harmonization of the cell sizes and service output tests with IEC 60086-2;
- b) Clarifications of Clauses 6: Sampling and Quality Assurance, 7: Test methods, and 8: Visual examination and acceptance condition;
- c) Harmonization of temperature and humidity conditions with IEC 60086-1.

This publication is published as a double logo standard.

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

FDIS	Report on voting
35/1359/FDIS	35/1362/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, published 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.

IMPORTANT – The “colour inside” logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this publication using a colour printer.

INTRODUCTION

This part of IEC 60086 provides specific requirements and information for primary watch batteries. This part of IEC 60086 was prepared through joint work between the IEC ~~TC 35~~ and ISO ~~TC 114~~ to benefit primary battery users, watch designers and battery manufacturers by ensuring the best compatibility between batteries and watches.

This part of IEC 60086 will remain under continual scrutiny to ensure that the publication is kept up to date with the advances in both battery and watch technologies.

NOTE Safety information ~~can be found~~ is available in IEC 60086-4 and IEC 60086-5.

PRIMARY BATTERIES –

Part 3: Watch batteries

1 Scope

This part of IEC 60086 specifies dimensions, designation, methods of tests and requirements for primary batteries for watches. In several cases, a menu of test methods is given. When presenting battery electrical characteristics and/or performance data, the manufacturer specifies which test method was used.

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-~~4~~:2015, *Primary batteries – Part 1: General*

IEC 60086-2-~~2~~:2015, *Primary batteries – Part 2: Physical and electrical specifications*

IEC 60086-4:~~2007~~ 2014, *Primary batteries – Part 4: Safety of lithium batteries*

IEC 60086-5:-³, *Primary batteries – Part 5: Safety of batteries with aqueous electrolyte*

~~IEC 60410, Sampling plans and procedures for inspection by attributes~~

~~ISO 2859 (all parts), Sampling procedures for inspection by attributes~~

~~ISO 3951 (all parts as applicable), Sampling procedures for inspection by variables~~

⁴ ~~To be published in 2011.~~

² ~~To be published in 2011.~~

³ To be published ~~in 2011.~~

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Primary batteries –
Part 3: Watch batteries**

**Piles électriques –
Partie 3: Piles pour montres**

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references.....	7
3 Terms and definitions	7
4 Physical requirements.....	8
4.1 Battery dimensions, symbols and size codes	8
4.2 Terminals.....	10
4.3 Projection of the negative terminal (h_5).....	10
4.4 Shape of negative terminal	10
4.5 Mechanical resistance to pressure.....	11
4.6 Deformation	11
4.7 Leakage.....	11
4.8 Marking.....	12
4.8.1 General	12
4.8.2 Disposal	12
5 Electrical requirements	12
5.1 Electrochemical system, nominal voltage, end-point voltage and open-circuit voltage.....	12
5.2 Closed circuit voltage U_{CC} (CCV), internal resistance and impedance.....	13
5.3 Capacity	13
5.4 Capacity retention	13
6 Sampling and quality assurance.....	13
7 Test methods.....	13
7.1 Shape and dimensions	13
7.1.1 Shape requirement.....	13
7.2 Electrical characteristics.....	14
7.2.1 Environmental conditions	14
7.2.2 Equivalent circuit – effective internal resistance – DC method.....	14
7.2.3 Equipment	15
7.2.4 Measurement of open-circuit voltage U_{OC} (OCV) and closed circuit voltage U_{CC} (CCV)	15
7.2.5 Calculation of the internal resistance R_i	16
7.2.6 Measurement of the capacity.....	16
7.2.7 Calculation of the internal resistance R_i during discharge in case of method A (optional).....	18
7.3 Test methods for determining the resistance to leakage	20
7.3.1 Preconditioning and initial visual examination	20
7.3.2 High temperature and humidity test	20
7.3.3 Test by temperature cycles	20
8 Visual examination and acceptance conditions	21
8.1 Preconditioning	21
8.2 Magnification	21
8.3 Lighting.....	21
8.4 Leakage levels and classification.....	21
8.5 Acceptance conditions.....	23

Annex A (normative) Designation	24
Bibliography	25
Figure 1 – Dimensional drawing	8
Figure 2 – Shape of negative terminal	11
Figure 3 – Shape requirement	14
Figure 4 – Schematic voltage transient	14
Figure 5 – Curve: $U = f(t)$	15
Figure 6 – Circuitry principle	16
Figure 7 – Circuitry principle for method A	17
Figure 8 – Circuitry principle for method B	18
Figure 9 – Test by temperature cycles	20
Table 1 – Dimensions and size codes	9
Table 2 – Dimensions and size codes	10
Table 3 – Minimum values of I_1	11
Table 4 – Applied force F by battery dimensions	11
Table 5 – Standardised electrochemical systems	12
Table 6 – Test method for U_{CC} (CCV) measurement	16
Table 7 – Test method A for U_{CC} (CCV) measurement	17
Table 8 – Discharge resistance (values)	19
Table 9 – Storage conditions for the recommended test	20
Table 10 – Storage conditions for optional test	20
Table 11 – Leakage levels and classification (1 of 2)	22

INTERNATIONAL ELECTROTECHNICAL COMMISSION

PRIMARY BATTERIES –**Part 3: Watch batteries****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.
- 2) 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 itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 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 60086-3 has been prepared by IEC technical committee 35: Primary cells and batteries, and ISO technical committee 114: Horology.

This fourth edition cancels and replaces the third edition published in 2011. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) A harmonization of the cell sizes and service output tests with IEC 60086-2;
- b) Clarifications of Clauses 6: Sampling and Quality Assurance, 7: Test methods, and 8: Visual examination and acceptance condition;
- c) Harmonization of temperature and humidity conditions with IEC 60086-1.

This publication is published as a double logo standard.

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

FDIS	Report on voting
35/1359/FDIS	35/1362/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, published 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

This part of IEC 60086 provides specific requirements and information for primary watch batteries. This part of IEC 60086 was prepared through joint work between the IEC and ISO to benefit primary battery users, watch designers and battery manufacturers by ensuring the best compatibility between batteries and watches.

This part of IEC 60086 will remain under continual scrutiny to ensure that the publication is kept up to date with the advances in both battery and watch technologies.

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

PRIMARY BATTERIES –

Part 3: Watch batteries

1 Scope

This part of IEC 60086 specifies dimensions, designation, methods of tests and requirements for primary batteries for watches. In several cases, a menu of test methods is given. When presenting battery electrical characteristics and/or performance data, the manufacturer specifies which test method was used.

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*

IEC 60086-2:2015, *Primary batteries – Part 2: Physical and electrical specifications*

IEC 60086-4:2014, *Primary batteries – Part 4: Safety of lithium batteries*

IEC 60086-5:-¹, *Primary batteries – Part 5: Safety of batteries with aqueous electrolyte*

¹ To be published.

SOMMAIRE

AVANT-PROPOS.....	28
INTRODUCTION.....	30
1 Domaine d'application.....	31
2 Références normatives	31
3 Termes et définitions	31
4 Exigences physiques	32
4.1 Dimensions, symboles et codage de la taille des piles.....	32
4.2 Bornes	34
4.3 Dépassement de la borne négative (h_5).....	34
4.4 Forme de la borne négative	34
4.5 Résistance mécanique à la pression.....	35
4.6 Déformation	35
4.7 Fuites	35
4.8 Marquage	36
4.8.1 Généralités	36
4.8.2 Mise au rebut.....	36
5 Exigences électriques.....	36
5.1 Système électrochimique, tension nominale, tension d'arrêt et tension en circuit ouvert	36
5.2 Tension en circuit fermé U_{CC} (CCV), résistance interne et impédance	37
5.3 Capacité	37
5.4 Conservation de la capacité	37
6 Echantillonnage et assurance de la qualité.....	37
7 Méthodes d'essai.....	38
7.1 Forme et dimensions	38
7.1.1 Exigences de forme	38
7.2 Caractéristiques électriques	38
7.2.1 Conditions environnementales.....	38
7.2.2 Circuit équivalent – Résistance interne effective – Méthode en courant continu	38
7.2.3 Equipement	39
7.2.4 Mesure de la tension en circuit ouvert U_{OC} (OCV) et de la tension en circuit fermé U_{CC} (CCV).....	40
7.2.5 Calcul de la résistance interne R_i	41
7.2.6 Mesure de la capacité	41
7.2.7 Calcul de la résistance interne R_i pendant la décharge dans le cas de la méthode A (facultatif).....	43
7.3 Méthodes d'essai pour déterminer la résistance aux fuites	45
7.3.1 Préconditionnement et examen visuel initial.....	45
7.3.2 Essai à haute température et à humidité élevée.....	45
7.3.3 Essai par cycle de température	45
8 Examen visuel et conditions d'acceptation.....	46
8.1 Préconditionnement	46
8.2 Grossissement	46
8.3 Éclairage	46
8.4 Niveaux de fuite et classification.....	46

8.5 Conditions d'acceptation	48
Annexe A (normative) Désignation	49
Bibliographie	50
Figure 1 – Dessin coté	32
Figure 2 – Forme de la borne négative	35
Figure 3 – Exigences de forme	38
Figure 4 – Schéma de la tension transitoire	39
Figure 5 – Courbe: $U = f(t)$	40
Figure 6 – Circuit de principe	40
Figure 7 – Circuit de principe pour la méthode A	42
Figure 8 – Circuit de principe pour la méthode B	43
Figure 9 – Essai par cycles de température	45
Tableau 1 – Dimensions et codage des tailles	33
Tableau 2 – Dimensions et codage des tailles	34
Tableau 3 – Valeurs minimales de l_1	35
Tableau 4 – Force F appliquée selon les dimensions de la pile	35
Tableau 5 – Systèmes électrochimiques normalisés	37
Tableau 6 – Méthode d'essai pour la mesure de U_{CC} (CCV)	41
Tableau 7 – Méthode d'essai A pour la mesure de U_{CC} (CCV)	42
Tableau 8 – Résistance de décharge (valeurs)	44
Tableau 9 – Conditions de stockage pour l'essai recommandé	45
Tableau 10 – Conditions de stockage pour l'essai facultatif	45
Tableau 11 – Niveaux de fuite et classification (1 de 2)	47

COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

PILES ÉLECTRIQUES –

Partie 3: Piles pour montres

AVANT-PROPOS

- 1) La Commission Electrotechnique Internationale (IEC) est une organisation mondiale de normalisation composée de l'ensemble des comités électrotechniques nationaux (Comités nationaux de l'IEC). L'IEC a pour objet de favoriser la coopération internationale pour toutes les questions de normalisation dans les domaines de l'électricité et de l'électronique. A cet effet, l'IEC – entre autres activités – publie des Normes internationales, des Spécifications techniques, des Rapports techniques, des Spécifications accessibles au public (PAS) et des Guides (ci-après dénommés "Publication(s) de l'IEC"). Leur élaboration est confiée à des comités d'études, aux travaux desquels tout Comité national intéressé par le sujet traité peut participer. Les organisations internationales, gouvernementales et non gouvernementales, en liaison avec l'IEC, participent également aux travaux. L'IEC collabore étroitement avec l'Organisation Internationale de Normalisation (ISO), selon des conditions fixées par accord entre les deux organisations.
- 2) Les décisions ou accords officiels de l'IEC concernant les questions techniques représentent, dans la mesure du possible, un accord international sur les sujets étudiés, étant donné que les Comités nationaux de l'IEC intéressés sont représentés dans chaque comité d'études.
- 3) Les Publications de l'IEC se présentent sous la forme de recommandations internationales et sont agréées comme telles par les Comités nationaux de l'IEC. Tous les efforts raisonnables sont entrepris afin que l'IEC s'assure de l'exactitude du contenu technique de ses publications; l'IEC ne peut pas être tenue responsable de l'éventuelle mauvaise utilisation ou interprétation qui en est faite par un quelconque utilisateur final.
- 4) Dans le but d'encourager l'uniformité internationale, les Comités nationaux de l'IEC s'engagent, dans toute la mesure possible, à appliquer de façon transparente les Publications de l'IEC dans leurs publications nationales et régionales. Toutes divergences entre toutes Publications de l'IEC et toutes publications nationales ou régionales correspondantes doivent être indiquées en termes clairs dans ces dernières.
- 5) L'IEC elle-même ne fournit aucune attestation de conformité. Des organismes de certification indépendants fournissent des services d'évaluation de conformité et, dans certains secteurs, accèdent aux marques de conformité de l'IEC. L'IEC n'est responsable d'aucun des services effectués par les organismes de certification indépendants.
- 6) Tous les utilisateurs doivent s'assurer qu'ils sont en possession de la dernière édition de cette publication.
- 7) Aucune responsabilité ne doit être imputée à l'IEC, à ses administrateurs, employés, auxiliaires ou mandataires, y compris ses experts particuliers et les membres de ses comités d'études et des Comités nationaux de l'IEC, pour tout préjudice causé en cas de dommages corporels et matériels, ou de tout autre dommage de quelque nature que ce soit, directe ou indirecte, ou pour supporter les coûts (y compris les frais de justice) et les dépenses découlant de la publication ou de l'utilisation de cette Publication de l'IEC ou de toute autre Publication de l'IEC, ou au crédit qui lui est accordé.
- 8) L'attention est attirée sur les références normatives citées dans cette publication. L'utilisation de publications référencées est obligatoire pour une application correcte de la présente publication.
- 9) L'attention est attirée sur le fait que certains des éléments de la présente Publication de l'IEC peuvent faire l'objet de droits de brevet. L'IEC ne saurait être tenue pour responsable de ne pas avoir identifié de tels droits de brevets et de ne pas avoir signalé leur existence.

La Norme internationale IEC 60086-3 a été établie par le comité d'études 35 de l'IEC: Piles, et par le comité technique 114 de l'ISO: Horlogerie.

Cette quatrième édition annule et remplace la troisième édition parue en 2011. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

- a) Harmonisation des tailles des éléments et des essais de capacité avec l'IEC 60086-2;
- b) Clarification des Articles 6: Echantillonnage et assurance de la qualité, 7: Méthodes d'essai, et 8: Examen visuel et conditions d'acceptation;
- c) Harmonisation des conditions de température et d'humidité avec celles de l'IEC 60086-1.

La présente norme est une norme double logo.

Le texte de cette norme est issu des documents suivants:

FDIS	Rapport de vote
35/1359/FDIS	35/1362/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à l'approbation de cette norme.

Cette publication a été rédigée selon les Directives ISO/IEC, Partie 2.

Une liste de toutes les parties de la série IEC 60086, publiées sous le titre général *Piles électriques*, peut être consultée sur le site web de l'IEC.

Le comité a décidé que le contenu de cette publication ne sera pas modifié avant la date de stabilité indiquée sur le site web de l'IEC sous "<http://webstore.iec.ch>" dans les données relatives à la publication recherchée. A cette date, la publication sera

- reconduite,
- supprimée,
- remplacée par une édition révisée, ou
- amendée.

INTRODUCTION

La présente partie de l'IEC 60086 donne les exigences et les informations spécifiques aux piles électriques pour montres. Cette partie de l'IEC 60086 a été élaborée conjointement par l'IEC et l'ISO dans l'intérêt des utilisateurs de piles électriques, des concepteurs de montres et des fabricants de piles en assurant la meilleure compatibilité possible entre les piles et les montres.

La présente partie de l'IEC 60086 fera l'objet d'un suivi permanent pour en permettre la mise à jour au fur et à mesure des progrès technologiques dans le domaine des piles et des montres.

NOTE Les informations concernant la sécurité sont données dans l'IEC 60086-4 et dans l'IEC 60086-5.

PILES ÉLECTRIQUES –

Partie 3: Piles pour montres

1 Domaine d'application

La présente partie de l'IEC 60086 spécifie les dimensions, la désignation, les méthodes d'essai et les exigences applicables aux piles électriques pour montres. Dans certains cas, un choix de méthodes d'essai est proposé. Lorsque le fabricant présente les caractéristiques électriques et/ou les performances de la pile, il précise la méthode d'essai qui a été utilisée.

2 Références normatives

Les documents suivants sont cités en référence de manière normative, en intégralité ou en partie, dans le présent document et sont indispensables pour son application. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 60086-1:2015, *Primary batteries – Part 1: General* (disponible en anglais seulement)

IEC 60086-2:2015, *Piles électriques – Partie 2: Spécifications physiques et électriques*

IEC 60086-4:2014, *Piles électriques – Partie 4: Sécurité des piles au lithium*

IEC 60086-5:-¹, *Piles électriques – Partie 5: Sécurité des piles à électrolyte aqueux*

¹ Publication à venir.