IEC 63115-1

Edition 1.1 2022-11
CONSOLIDATED VERSION

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Secondary cells and batteries containing alkaline or other non-acid electrolytes – Sealed nickel-metal hydride cells and batteries for use in industrial applications – Part 1: Performance

Accumulateurs alcalins et autres accumulateurs à électrolyte non acide – Accumulateurs étanches au nickel-métal hydrure destinés à l'utilisation dans les applications industrielles – Partie 1: Performances



IEC 63115-1:2020-01+AMD1:2022-11 CSV(en-fr)



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CONTENTS

FOREWORD 4
1 Scope 6
2 Normative references 6
3 Terms and definitions 7
4 Parameter measurement tolerances 8
5 Marking and designation 9
5.1 Marking 9
5.2 Cell and monobloc designation 9
5.3 Module, battery pack and battery system designation 10
6 Dimensions 11
6.1 Cylindrical cell 11
6.2 Prismatic cell and monobloc 11
6.3 Module, battery pack and battery system 12
7 Electrical tests 12
7.1 General 12
7.2 Charging procedure for test purposes 13
7.3 Discharge performance 13
7.3.1 Discharge performance at 20 °C 13
7.3.2 Discharge performance at 5 °C 14
7.3.3 Discharge performance at −18 °C 15
7.4 Charge (capacity) retention and recovery 15
7.4.1 General 15
7.4.2 Test method 15
7.4.3 Acceptance criterion 16
7.5 Endurance in cycles 16
7.5.1 General 16
7.5.2 Test method 16
7.5.3 Acceptance criterion 17
7.6 Internal resistance 17
7.6.1 General 17
7.6.2 Measurement of the internal AC resistance 18
7.6.3 Measurement of the internal DC resistance 18
7.7 Storage 19
8 Type test conditions 19
8.1 General 19
8.2 Sample size 19
8.3 Conditions for type approval 22
8.3.1 Dimensions 22
8.3.2 Electrical tests 22
Annex A (informative) Battery structure information 23
A.1 Example 1 23
A.2 Example 2 23
A.3 Example 3 23
A.4 Example 4 24
A.5 Example 5 24

A.6 Example 6 25
A.7 Example 7 25
A.8 Example 8 26
A.9 Example 9 27
Bibliography 28

Figure 1 – Examples of maximum dimensions of a cylindrical cell 11
Figure 2 – Examples of maximum dimensions of a prismatic cell and monobloc 12
Figure 3 – Test sequence 21
Figure A.1 – Structure 3S 23
Figure A.2 – Structure 2P 23
Figure A.3 – Structure 3S2P 23
Figure A.4 – Structure 2P4S 24
Figure A.5 – Structure 2P4S3P 24
Figure A.6 – Structure (2P4S)3P 25
Figure A.7 – Structure (3S2P)3P 25
Figure A.8 – Structure (5S)4S 26
Figure A.9 – Structure ((3S2P)3P)2S 27

Table 1 – Marking per item type 9
Table 2 – Discharge performance at 20 °C ± 5 °C 14
Table 3 – Discharge performance at 5 °C ± 5 °C 14
Table 4 – Discharge performance at −18 °C ± 5 °C 15
Table 5 – Endurance test in cycles 17
Table 6 – Discharge current applied during the measurement of the internal DC resistance 18
Table 7 – Sample size for type tests 20

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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SECONDARY CELLS AND BATTERIES CONTAINING ALKALINE OR OTHER NON-ACID ELECTROLYTES – SEALED NICKEL-METAL HYDRIDE CELLS AND BATTERIES FOR USE IN INDUSTRIAL APPLICATIONS –

Part 1: Performance

FOREWORD

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This consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.

IEC 63115-1 edition 1.1 contains the first edition (2020-01) [documents 21A/716/FDIS and 21A/720/RVD] and its amendment 1 (2022-11) [documents 21A/811/FDIS and 21A/820/RVD].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 63115-1 has been prepared by subcommittee 21A: Secondary cells and batteries containing alkaline or other non-acid electrolytes, of IEC technical committee 21: Secondary cells and batteries.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 63115, published under the general title *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Sealed nickel-metal hydride cells and batteries for use in industrial applications*, can be found on the IEC website.

The committee has decided that the contents of the base publication and its amendment will remain unchanged until the stability date indicated on the IEC web site under 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.

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SECONDARY CELLS AND BATTERIES CONTAINING ALKALINE OR OTHER NON-ACID ELECTROLYTES – SEALED NICKEL-METAL HYDRIDE CELLS AND BATTERIES FOR USE IN INDUSTRIAL APPLICATIONS –

Part 1: Performance

1 Scope

This document specifies the marking, designation, tests and requirements for sealed nickel-metal hydride cells and batteries used in industrial applications, including stationary applications.

When an IEC International Standard specifying test conditions and requirements for cells used in special applications is in conflict with this document, the former takes precedence (e.g. IEC 62675).

The following are some examples of applications that utilize the cells and batteries falling under the scope of this document.

- Stationary applications: telecom, uninterruptible power supplies (UPS), electrical energy storage system, utility switching, emergency power and similar applications.
- Motive applications: fork-lift truck, golf cart, AGV (Automatic Guided Vehicle), railway, and marine, excluding road vehicles.

Since this document covers batteries for various industrial applications, it includes those requirements that are common and minimum to the various applications.

This document applies to cells and batteries. If the battery is divided into smaller units, the smaller unit can be tested as representative of the battery. The manufacturer clearly declares the tested unit. The manufacturer can add functions to the tested unit that are present in the final battery.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60050-482:2004, *International Electrotechnical Vocabulary (IEV) – Part 482: Primary and Secondary cells and batteries*

IEC 61434:1996, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Guide to the designation of current in alkaline secondary cell and battery standards*

IEC 62675:2014, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Sealed nickel-metal hydride prismatic rechargeable single cells*

ISO/IEC Guide 51, *Safety aspects – Guidelines for their inclusion in standards*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-482, ISO/IEC Guide 51, and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
cell
sealed nickel metal hydride cell
cell containing a nickel hydroxide compound for the positive electrode, a hydrogen absorbing alloy for the negative electrode, and potassium hydroxide or other alkaline solution as electrolyte, and not releasing either gas or liquid when operated within the limits specified by the manufacturer

Note 1 to entry: A sealed cell may be equipped with a safety device to prevent a dangerously high internal pressure and is designed to operate during its life in its original sealed state. See IEC 60050-482:2004, 482-05-17.

3.2
monobloc
battery with multiple separate but electrically connected cell compartments each of which is designed to house an assembly of electrodes, electrolyte, terminals or interconnections and possible separators

[SOURCE: IEC 60050-482:2004, 482-02-17, modified – "battery" has been omitted from the term and the note to entry deleted.]

3.3
module ,<for cells>
group of cells connected together either in series and/or parallel configuration with or without protective devices (e.g. fuse or PTC) and monitoring circuitry

3.4
battery pack
energy storage device comprised of one or more cells, monoblocs or modules electrically connected

Note 1 to entry: A battery pack may have a monitoring circuitry which provides information (e.g. cell voltage) to a battery system.

3.5
battery system
battery
system which comprises one or more cells, cell blocks, monoblocs, modules or battery packs

Note 1 to entry: The battery system has a battery management system to cut off current in case of overcharge, overcurrent, overdischarge, or overheating.

Note 2 to entry: Overdischarge cut off is not mandatory if there is an agreement on this between the cell manufacturer and the customer.

Note 3 to entry: The battery system may have cooling or heating units.

Note 4 to entry: The battery system may be enclosed in a battery box.