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Date: 04 March 2025

Origin: International

Latest date for receipt of comments: 26 March 2025

Project No. 2025/00769

Responsible committee: PEL/21 Secondary cells and batteries

Interested committees:

Title: Draft BS EN 63115-1 Ed.2.0 BS EN 63115-1 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.

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- ii) affects other national standard(s)
- iii) requires additional national guidance or information

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
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Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



21A/923/CD

COMMITTEE DRAFT (CD)

PROJECT NUMBER: IEC 63115-1 ED2	
DATE OF CIRCULATION: 2025-02-28	CLOSING DATE FOR COMMENTS: 2025-04-25
SUPERSEDES DOCUMENTS: 21A/861/RR	

IEC SC 21A : SECONDARY CELLS AND BATTERIES CONTAINING ALKALINE OR OTHER NON-ACID ELECTROLYTES	
SECRETARIAT: France	SECRETARY: Mr Jean-Marie Bodet
OF INTEREST TO THE FOLLOWING COMMITTEES: TC 9	HORIZONTAL FUNCTION(S):
ASPECTS CONCERNED:	

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Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Recipients of this document are invited to submit, with their comments, notification of any local regulations or technical reasons that may exist and should be considered should this proposal proceed, recognizing that failure to address such requirements could result in the need for new or existing "In Some Countries" clauses. (SEE AC/22/2007 OR NEW GUIDANCE DOC).

TITLE: 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
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NOTE FROM TC/SC OFFICERS: Circulation of CD after presentation of the proposed modifications to the SC21A/WG1 during the Fall Meeting held in Saint Denis on 2024-11-19
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**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].

This Final version does not show where the technical content is modified by amendment 1. A separate Redline version with all changes highlighted 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.

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 document using a colour printer.

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

basic functional unit, consisting of an assembly of electrodes, electrolyte, container, terminals and separators, that is a source of electric energy obtained by direct conversion of chemical energy

[SOURCE: IEC 60050-482:2004, 482-01-01, modified – In the definition, “usually separators” has been replaced with “separators”.]

3.2

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.

3.3

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.]

3.4

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

3.5

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.

3.6

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.

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

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

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

241 3.7

242 battery management system

243 BMS

244 electronic system associated with a battery which has functions to cut off in case of overcharge,
245 overcurrent, overdischarge, or overheating

246 Note 1 to entry: The BMS monitors and/or manages its state, calculates secondary data, reports that data and/or
247 controls its environment to influence the battery's safety, performance and/or service life.

248 Note 2 to entry: The BMS is sometimes also referred to as a BMU (battery management unit).

249 Note 3 to entry: This note applies to the French language only.

250 3.8

251 final voltage

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

253 [SOURCE: IEC 60050-482:2004, 482-03-30, modified – The synonyms "end-of-discharge
254 voltage", "cut-off voltage" and "end-point voltage" have been omitted.]

255 3.9

256 nominal voltage

257 suitable approximate value of the voltage used to designate or identify the voltage of a cell or
258 battery

259 Note 1 to entry: The nominal voltage of a sealed nickel-metal hydride single cell is 1,2 V.

260 Note 2 to entry: The nominal voltage of a battery of n series connected cells is equal to n times the nominal voltage
261 of a single cell.

262 [SOURCE: IEC 60050-482:2004, 482-03-31, modified – The words "the voltage of" have been
263 added; the notes to entry have been added and the reference to electrochemical systems has
264 been omitted.]

265 3.10

266 rated capacity

267 capacity value of a cell or battery determined under specified conditions and declared by the
268 manufacturer

269 Note 1 to entry: The rated capacity is the quantity of electricity C_5 Ah (ampere-hours) declared by the manufacturer
270 which a cell or battery can deliver during a 5 h period when charging, storing and discharging under the conditions
271 specified in 7.3.1.

272 [SOURCE: IEC 60050-482:2004, 482-03-15, modified – "cell" has been added to the definition,
273 along with a note to entry.]

274 3.11

275 reference test current

276 I_t

277 charge or discharge current, expressed as a multiple of I_t A, where I_t A = C_5 Ah/1 h, as defined
278 in IEC 61434, and based on the rated capacity (C_5 Ah) of the cell or battery