IEC 60095-6

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Lead-acid starter batteries –
Part 6: Batteries for micro-cycle applications

Batteries d'accumulateurs de démarrage au plomb –
Partie 6: Batteries pour applications microcycles

IEC 60095-6:2019-09

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FOREWORD

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International Standard IEC 60095-6 has been prepared by IEC technical committee 21: Secondary cells and batteries.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
21/1013/FDIS	21/1018/RVD

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

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

A list of all parts in the IEC 60095 series, published under the general title *Lead-acid starter batteries*, can be found on the IEC website.

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

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- withdrawn,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

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LEAD-ACID STARTER BATTERIES –

Part 6: Batteries for micro-cycle applications

1 Scope

This part of IEC 60095 is applicable to lead-acid batteries with a nominal voltage of 12 V, used primarily as power source for the starting of internal combustion engines (ICE), lighting and also for auxiliary equipment of ICE vehicles. These batteries are commonly called "starter batteries".

The batteries within the scope of this document are used for micro-cycle applications in vehicles which can also be called start-stop (or stop-start, idling-stop system, micro hybrid or idle-stop-and-go) applications. In cars with this special capability, the internal combustion engine is switched off during a complete vehicle stop, during idling with low speed or during idling where there is no need to support the vehicle movement by the internal combustion engine. During the phases in which the engine is switched off, most of the electric and electronic components of the car are supplied by the battery without support of the alternator. In addition, in most cases an additional regenerative braking (recuperation or regeneration of braking energy) function is installed. The batteries under these applications are stressed in a completely different way compared to classical starter batteries. Aside from these additional properties, these batteries need to crank the ICE and support the lighting and also auxiliary functions in a standard operating mode with the support of the alternator when the internal combustion engine is switched on. All batteries within the scope fulfil basic functions, which are tested under the application of IEC 60095-1.

This document specifies the general requirements and methods of test specific to lead-acid batteries used for micro-cycle applications.

This document is applicable to batteries for the following purposes:

- lead-acid batteries of the dimensions according to IEC 60095-2 for vehicles with the capability to automatically switch off the ICE during vehicle operation either in standstill or when moving ("start-stop");
- lead-acid batteries of the dimensions according to IEC 60095-2 for vehicles with start-stop applications with the capability to recover braking energy or energy from other sources.

Li-ion technology is excluded from this document.

NOTE The applicability of this document also for batteries according to IEC 60095-4 is under consideration.

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, *International Electrotechnical Vocabulary (IEV) – Part 482: Primary and secondary cells and batteries*

IEC 60095-1:2018, *Lead-acid starter batteries – Part 1: General requirements and methods of test*