IEC 62660-3

Edition 1.0 2016-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Secondary lithium-ion cells for the propulsion of electric road vehicles –
Part 3: Safety requirements

Éléments d'accumulateurs lithium-ion pour la propulsion des véhicules routiers électriques –
Partie 3: Exigences de sécurité

IEC 62660-3:2016-08(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

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SECONDARY LITHIUM-ION CELLS FOR THE PROPULSION OF ELECTRIC ROAD VEHICLES –

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FOREWORD

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

FDIS	Report on voting
21/890/FDIS	21/897/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 62660 series, published under the general title *Secondary lithium-ion cells for the propulsion of electric road vehicles*, 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

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INTRODUCTION

The electric road vehicles (EV) including hybrid and plug-in hybrid electric vehicles are beginning to diffuse in the global market with backing from global concerns on CO_2 reduction and energy, recent advances in technology and cost reduction. This has led to a rapidly increasing demand for high-power and high-energy density traction batteries represented by lithium-ion batteries.

For securing a basic level of quality of lithium-ion batteries for automotive applications, relevant international standards, i.e. IEC 62660-1, IEC 62660-2, ISO 12405-1 and ISO 12405-2, have been published. These standards specify the performance, reliability and abuse testing of lithium-ion battery cells, packs and systems for EV applications. Further, in the light of increasing concerns on the safety of lithium-ion batteries and demand for a referenceable international standard, safety requirements for lithium-ion battery packs and systems are defined in ISO 12405-3. Regulations, such as UN ECE R100, are also being revised that include acceptance criteria for rechargeable energy storage systems of EVs.

It is essential to specify the safety criteria at cell level in this standard, in order to secure the basic safety level of cells which differ in performance and design, and are applied to a variety of types of packs and systems. For automobile applications, it is important to note the design diversity of automobile battery packs and systems, and specific requirements for cells and batteries corresponding to each of such designs. Based on these facts, the purpose of this standard is to provide a basic level of safety test methodology and criteria with general versatility, which serves a function in common primary testing of lithium-ion cells to be used in a variety of battery systems. Specific requirements for the safety of cells differ depending on the system designs of battery packs or vehicles, and should be evaluated by the users. Final pass-fail criteria of cells are to be based on the agreement between the cell manufacturers and the customers.