

SLOVENSKI STANDARD
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Mopedi in motorna kolesa na električni pogon - Metode preskušanja in varnostne zahteve za sisteme z litij-ionskimi baterijami (ISO 18243:2017)

Electrically propelled mopeds and motorcycles - Test specifications and safety requirements for lithium-ion battery systems (ISO 18243:2017)

Elektrisch angetriebene Kleinkraftträder und Motorräder - Spezifikationen und Sicherheitsanforderungen für Lithium-Ionen-Batteriesysteme (ISO 18243:2017)

Cyclomoteurs et motocycles à propulsion électrique - Spécifications d'essai et exigences de sécurité pour les systèmes de batterie au lithium-ion (ISO 18243:2017)

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Electrically propelled mopeds and motorcycles - Test specifications and safety requirements for lithium-ion battery systems (ISO 18243:2017)

Cyclomoteurs et motocycles à propulsion électrique -
Spécifications d'essai et exigences de sécurité pour les
systèmes de batterie au lithium-ion (ISO 18243:2017)

Elektrisch angetriebene Kleinkrafträder und
Motorräder - Spezifikationen und
Sicherheitsanforderungen für Lithium-Ionen-
Batteriesysteme (ISO 18243:2017)

This draft European Standard is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 301.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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

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European foreword

The text of ISO 18243:2017 has been prepared by Technical Committee ISO/TC 22 “Road vehicles” of the International Organization for Standardization (ISO) and has been taken over as FprEN ISO 18243:2018 by Technical Committee CEN/TC 301 “Road vehicles” the secretariat of which is held by AFNOR.

This document is currently submitted to the Unique Acceptance Procedure.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This Standard specifies test procedures for lithium-ion battery packs and systems, to be used in electrically propelled mopeds and motorcycles.

It covers either removable or not removable batteries.

In case of removable batteries, attention is drawn to the existing EN 50604 standard dedicated to the removable batteries for all L-Vehicles categories. This standard includes additional tests and requirements for the removable batteries that are not considered in the current edition of ISO 18243.

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Endorsement notice

The text of ISO 18243:2017 has been approved by CEN as FprEN ISO 18243:2018 without any modification.

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INTERNATIONAL STANDARD

**ISO
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First edition
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Electrically propelled mopeds and motorcycles — Test specifications and safety requirements for lithium-ion battery systems

*Cyclomoteurs et motocycles à propulsion électrique — Spécifications
d'essai et exigences de sécurité pour les systèmes de batterie au
lithium-ion*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 38, *Motorcycles and mopeds*.

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ISO 18243:2017(E)**Introduction**

Lithium-ion based battery systems are an efficient alternative energy storage system for electrically propelled mopeds and motorcycles. The requirements for lithium-ion based battery systems to be used as power source for the propulsion of electrically propelled mopeds and motorcycles are significantly different to those batteries used for consumer electronics or stationary usage.

This document provides specific test procedures for lithium-ion battery packs and systems specifically developed for propulsion of mopeds and motorcycles. This document specifies such tests and related requirements to ensure that a battery pack or system is able to meet the specific needs of the mopeds and motorcycles industry.

It enables mopeds and motorcycles manufacturers to choose test procedures to evaluate the characteristics of a battery pack or system for their specific requirements.

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Electrically propelled mopeds and motorcycles — Test specifications and safety requirements for lithium-ion battery systems

1 Scope

This document specifies the test procedures for lithium-ion battery packs and systems used in electrically propelled mopeds and motorcycles.

The specified test procedures enable the user of this document to determine the essential characteristics on performance, safety and reliability of lithium-ion battery packs and systems. The user is also supported to compare the test results achieved for different battery packs or systems.

This document enables setting up a dedicated test plan for an individual battery pack or system subject to an agreement between customer and supplier. If required, the relevant test procedures and/or test conditions of lithium-ion battery packs and systems are selected from the standard tests provided in this document to configure a dedicated test plan.

NOTE 1 Electrically power-assisted cycles (EPAC) cannot be considered as mopeds. The definition of electrically power-assisted cycles can differ from country to country. An example of definition can be found in the EU Directive 2002/24/EC.

NOTE 2 Testing on cell level is specified in IEC 62660 (all parts).

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.

ISO 13063, *Electrically propelled mopeds and motorcycles — Safety specifications*

ISO 16750-1, *Road vehicles — Environmental conditions and testing for electrical and electronic equipment — Part 1: General*

IEC 60068-2-30, *Environmental testing — Part 2-30: Tests – Test Db: Damp heat, cyclic (12 h + 12 h cycle)*

IEC 60068-2-47, *Environmental testing — Part 2-47: Tests – Mounting of specimens for vibration, impact and similar dynamic tests*

IEC 60068-2-52, *Environmental testing — Part 2-52: Tests – Test Kb: Salt mist, cyclic (sodium, chloride solution).*

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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>