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Electrically propelled road vehicles — Test specification for lithium-ion traction battery packs and systems —

Part 3: Safety performance requirements

*Véhicules routiers à propulsion électrique — Spécifications d'essai
pour packs et systèmes de batterie de traction aux ions lithium —*

Partie 3: Exigences de performance de sécurité



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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.

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The committee responsible for this document is ISO/TC 22, *Road vehicles*, Subcommittee SC 21, *Electrically propelled road vehicles*.

ISO 12405 consists of the following parts, under the general title *Electrically propelled road vehicles — Test specification for lithium-ion traction battery packs and systems*:

- *Part 1: High-power applications*
- *Part 2: High-energy applications*
- *Part 3: Safety performance requirements*

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Introduction

Lithium-ion battery systems are efficient rechargeable energy storage systems for electrically propelled road vehicles. The requirements for lithium-ion battery systems to be used as power source for the propulsion of electric road vehicles are significantly different to those batteries used for consumer electronics or for stationary applications.

Lithium-ion batteries can store electricity at relatively high-energy density compared to other battery chemistries currently available. Under current state of art, most lithium-ion batteries use organic electrolytes which are classified as Class 3 "flammable liquid" under the "UN Recommendations on the Transport of Dangerous Goods — Model Regulations". Therefore, mitigating potential hazards associated with fire or explosion of lithium-ion batteries is considered an important issue.

This part of ISO 12405 provides specific test procedures and related requirements to ensure an appropriate and acceptable level of safety of lithium-ion battery systems specifically developed for propulsion of road vehicles.