BS ISO 6469-4:2015

BSI Standards Publication

Electrically propelled road vehicles — Safety specifications

Part 4: Post crash electrical safety

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National foreword

This British Standard is the UK implementation of ISO 6469-4:2015.

The UK participation in its preparation was entrusted to Technical Committee PEL/69, Electric vehicles.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Part 4: Post crash electrical safety

Véhicules routiers électriques — Spécifications de sécurité —

Partie 4: Exigences de sécurité électrique après accident

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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).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

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

ISO 6469 consists of the following parts, under the general title *Electrically propelled road vehicles — Safety specifications*:

— *Part 1: On-board rechargeable energy storage system (RESS)*

— *Part 2: Vehicle operational safety means and protection against failures*

— *Part 3: Protection of persons against electric shock*

— *Part 4: Post crash electrical safety*

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INTERNATIONAL STANDARD ISO 6469-4:2015(E)

Electrically propelled road vehicles — Safety specifications —

Part 4: Post crash electrical safety

1 Scope

This part of ISO 6469 specifies safety requirements for the electric propulsion systems and conductively connected auxiliary electric systems of electrically propelled road vehicles for the protection of persons inside and outside the vehicle. It specifies electrical safety requirements for vehicle post-crash conditions.

It applies to electrically propelled road vehicles with voltage class B electric circuits.

It does not apply to motorcycles and mopeds.

It does not specify any crash test procedure. The safety requirements of this part of ISO 6469 apply to applicable vehicles in accordance with published crash test procedures of each country or region. Applicable vehicles are those vehicles which are explicitly specified in these crash test procedures.

It does not provide comprehensive safety information for first responders, emergency services, maintenance, and repair personnel.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 6469-3, *Electrically propelled road vehicles — Safety specifications — Part 3: Protection of persons against electric shock*

ISO 20653, *Road vehicles — Degrees of protection (IP code) — Protection of electrical equipment against foreign objects, water and access*

ISO/TR 8713, *Electrically propelled road vehicles — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/TR 8713 and the following apply.

3.1
auxiliary electric system
on-board vehicle system, other than the propulsion system, which operates on electric energy

3.2
barrier
part providing protection against direct contact from any usual direction of access

3.3
conductive part
part capable of conducting electric current

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3.4
direct contact
contact of persons with live parts

3.5
electric chassis
conductive parts of a vehicle that are electrically connected and whose potential is taken as reference

3.6
electric drive
combination of traction motor, power electronics, and their associated controls for the conversion of electric to mechanical power and vice versa

3.7
electric shock
physiological effect resulting from an electric current passing through a human body

3.8
electrically propelled vehicle
vehicle with at least one electric drive for vehicle propulsion

3.9
enclosure
part providing protection of equipment against direct contact from any direction

3.10
exposed conductive part
conductive part of the electric equipment, that can be touched by a test finger according to IPXXB (see ISO 20653) after removing barriers/enclosures that can be removed without using tools and that is not normally live, but which may become live under fault conditions

3.11
isolation resistance
resistance between live parts of voltage class B electric circuit and the electric chassis as well as the voltage class A system

3.12
line conductor
conductor which is electrically energized in normal operation and capable of contributing to the transmission or distribution of electric energy

3.13
live part
conductor or conductive part intended to be electrically energized in normal operation

3.14
maximum working voltage
highest value of a.c. voltage (rms) or of d.c. voltage which may occur in an electric system under any normal operating conditions according to manufacturer's specifications, disregarding transients

3.15
potential equalisation
electric connections of exposed conductive parts of the electric equipment to minimize differences in potential between these parts

3.16
rechargeable energy storage system
RESS
system that stores energy for delivery of electric energy for vehicle propulsion and which is rechargeable

EXAMPLE Battery, capacitors.

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