SLOVENSKI STANDARD
oSIST prEN IEC 63281-1:2022

01-december-2022

Osebni e-prevozniki - Varnostne zahteve in preskusne metode

Personal e-Transporters - Safety requirements and test methods

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Ta slovenski standard je istoveten z: **prEN IEC 63281-1:2022**

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ICS:

43.120	Električna cestna vozila	Electric road vehicles

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125/67/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER: **IEC 63281-1 ED1**	
DATE OF CIRCULATION: **2022-10-14**	CLOSING DATE FOR VOTING: **2023-01-06**
SUPERSEDES DOCUMENTS: **125/31/CD, 125/44/CC**	

IEC TC 125 : E-TRANSPORTERS

SECRETARIAT: Belgium	SECRETARY: Mr Bram Rotthier
OF INTEREST TO THE FOLLOWING COMMITTEES: TC 21,TC 61,TC 69,TC 77,TC 106,CIS/D	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.

FUNCTIONS CONCERNED:

☒ EMC ☒ ENVIRONMENT ☐ QUALITY ASSURANCE ☒ SAFETY

☒ SUBMITTED FOR CENELEC PARALLEL VOTING	☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING
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TITLE:

Personal e-Transporters - Safety requirements and test methods

PROPOSED STABILITY DATE: 2026

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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PERSONAL E-TRANSPORTERS - SAFETY REQUIREMENTS AND TEST METHODS

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International Standard IEC XXXXX has been prepared by IEC technical committee 125: Personal e-Transporters (PeTs).

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This XXX edition cancels and replaces the XXX edition published in [publication_date], Amendment 1:[publication_date] and Amendment 2:[publication_date]. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) …;

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

FDIS	Report on voting

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XX/XX/FDIS	XX/XX/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.

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.

The National Committees are requested to note that for this document the stability date is 20XX..

THIS TEXT IS INCLUDED FOR THE INFORMATION OF THE NATIONAL COMMITTEES AND WILL BE DELETED AT THE PUBLICATION STAGE.

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INTRODUCTION

This International Standard has been developed to cope with the rapidly evolving personnel e-transporters. Personnel e-transporters have become common in **public space**s and roads, some of which can reach speeds of 25 km/h or even higher, and the applications and global market size are expected to grow significantly. In order to protect safety for persons and public facilities, besides basic safety requirements, comprehensive safety requirements and test methods such as riding safety for people and for e-transporters shall also be considered. Based on the current situation, this international standard provides comprehensive safety requirements and corresponding test methods for personnel e-transporters, which is convenient for manufacturers and test departments to use.

The following are not covered by this document because they are handled by other TCs:

- IEC TC 69

- ISO TC 149

- ISO TC 22

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PERSONAL E-TRANSPORTERS - SAFETY REQUIREMENTS AND TEST METHODS

1 Scope

This document specifies safety requirements for Personal e- Transporters

This document is applicable to electrically powered Personal e-Transporters（PeT） which are used in private and public area, where the speed control and/or the steering control is electric/electronic.

The PeT may have provisions for transport of cargo and may be for private or commercial (including sharing service) use.

This document is not applicable for EVs as: EPACs, E-bikes, mopeds, motorcycles and passenger cars.

This document does not apply to:

— PeT that are considered as toys;

— PeT that are intended for competition;

— PeT that are intended for medical care;

— PeT that have a rated voltage of more than 100 VDC or 240 VAC;

— PeT without an on-board driving operator.

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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 60034-1, *Rotating electrical machines - Part 1: Rating and performance*

IEC 60068-2-1, *Environmental testing - Part 2-1: Tests - Test A: Cold*

IEC 60068-2-2, *Environmental testing - Part 2-2: Tests - Test B: Dry heat*

IEC 60068-2-11, *Basic environmental testing procedures - Part 2-11: Tests - Test Ka: Salt mist*

IEC 60068-2-14:2009, *Environmental testing - Part 2-14: Tests - Test N: Change of temperature*

IEC 60068-2-64, *Environmental testing - Part 2-64: Tests - Test Fh: Vibration, broadband random and guidance*

IEC 60068-2-75, *Environmental testing - Part 2-75: Tests - Test Eh: Hammer tests*

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IEC 60335-2-29, *Household and similar electrical appliances - Safety - Part 2-29: Particular requirements for battery chargers*

IEC 60335-2-114, *Household and similar electrical appliances - Safety - Part 2-114: Particular requirements for self-balancing personal transport devices for use with batteries containing alkaline or other non-acid electrolytes*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 60695-11-10, *Fire hazard testing - Part 11-10: Test flames - 50 W horizontal and vertical flame test methods*

IEC 60812, *Failure modes and effects analysis (FMEA and FMECA)*

IEC 61000-6-1, *Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity standard for residential, commercial and light-industrial environments*

IEC 61000-6-3, *Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments*

IEC 61508-1, *Functional safety of electrical/electronic/programmable electronic safety-related systems - Part 1: General requirements*

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IEC 62133-1:2017, *Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications - Part 1: Nickel systems*

IEC 62133-2, *Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary lithium cells, and for batteries made from them, for use in portable applications - Part 2: Lithium systems*

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ISO 2248, *Packaging — Complete, filled transport packages — Vertical impact test by dropping*

ISO 4210-9, *Cycles — Safety requirements for bicycles -- Part 9: Saddles and seat-post test methods*

ISO 6742-1, *Cycles — Lighting and retro-reflective devices — Part 1: Lighting and light signalling devices*

ISO 6742-2, *Cycles — Lighting and retro-reflective devices — Part 2: Retro-reflective devices*

ISO 12100, *Safety of machinery — General principles for design — Risk assessment and risk reduction*

ISO 13849-1, *Safety of machinery -- Safety-related parts of control systems -- Part 1: General principles for design*

ISO 14878, *Cycles — Audible warning devices — Technical specification and test methods*

ISO 18243, *Electrically propelled mopeds and motorcycles — Test specifications and safety requirements for lithium-ion battery systems*

EN 17128:2020, *Light motorized vehicles for the transportation of persons and goods and related facilities and not subject to type approval for on-road use - Personal light electric vehicles (PLEV) - Requirements and test methods*

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EN 50604-1, *Secondary lithium batteries for light EV (electric vehicle) applications - Part 1: General safety requirements and test methods*

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

3.1
audible warning device

AWD

device designed for the purpose to warn people by an audible signal

NOTE 1 to entry: Including all types of technologies (i.e., bells, horns, electronic audible warning device).

[SOURCE: ISO 14878:2015, 3.3]

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3.2
battery pack

energy storage device that includes cells or cell assemblies normally connected with cell electronics, power supply circuit and overcurrent shut-off device, including electrical interconnections, interfaces for external systems

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NOTE 1 to entry: See A.2 for further explanation.

NOTE 2 to entry: Examples of external systems are cooling, voltage class B, auxiliary voltage class A and communication.

[SOURCE: ISO 12405-4:2018, 3.2]

3.3
battery system

energy storage device that includes cells or cell assemblies or **battery pack**(s) (3.2) as well as electrical circuits and electronics

NOTE 1 to entry: See A.3.2 and A.3.3 of ISO 12405-4:2018 for further explanation. **Battery system** components can also be distributed in different devices within the vehicle.

NOTE 2 to entry: Examples of electronics are the BCU and contactors.

[SOURCE: ISO 12405-4:2018,3.3]

3.4
brake

part of the braking system where the forces opposing the movement of the e-Transporter is developed