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Electrically propelled mopeds and motorcycles — Test method for evaluating performance of regenerative braking systems

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National foreword

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

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Electrically propelled mopeds and motorcycles — Test method for evaluating performance of regenerative braking systems

À propulsion électrique cyclomoteurs et des motocycles — Méthode d'essai pour évaluer l'efficacité du système de freinage régénératif

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Foreword

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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*.

Electrically propelled mopeds and motorcycles — Test method for evaluating performance of regenerative braking systems

1 Scope

This document specifies test procedures for measuring performance of regenerative braking systems used for electric motorcycles and mopeds that are propelled by traction motors with electric batteries. Performance of regenerative braking systems is dealt with two perspectives: first, how much a regenerative braking system can extend range of a motorcycle or moped or reduce energy consumption, and second, the efficiency of the driving motor system when working as generator in regenerative braking mode.

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 13064-1:2012, *Battery-electric mopeds and motorcycles — Performance — Part 1: Reference energy consumption and range*

ISO 13064-2:2012, *Battery-electric mopeds and motorcycles — Performance — Part 2: Road operating characteristics*

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

IEC 60034-2-1, *Rotating electrical machines — Part 2-1: Standard methods for determining losses and efficiency from test (excluding machines for traction vehicles)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 13064-2, IEC 60034-1, IEC 60034-2-1 and the following 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
load motor
electric motor that can simulate road load, as well as braking torque, when testing a *test motor system* (3.11) of electric mopeds and motorcycles

Note 1 to entry: During test, both rotational speed and torque of load motor shall be controllable within a specified range.

3.2
load motor system
combination of a *load motor* (3.1) and its inverter