
**Fuel cell road vehicles — Energy
consumption measurement — Vehicles
fuelled with compressed hydrogen**

*Véhicules routiers avec pile à combustible — Mesurage de la
consommation d'énergie — Véhicules alimentés par hydrogène
comprimé*



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Published in Switzerland

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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*.

This second edition cancels and replaces the first edition (ISO 23828:2008), which has been technically revised.

Fuel cell road vehicles — Energy consumption measurement — Vehicles fuelled with compressed hydrogen

1 Scope

This International Standard specifies the procedures for measuring the energy consumption of fuel cell passenger cars and light-duty trucks that use compressed hydrogen and which are not externally chargeable.

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 10521 (all parts), *Road vehicles — Road load*

ISO 14687-2, *Hydrogen fuel — Product specification — Part 2: Proton exchange membrane (PEM) fuel cell applications for road vehicles*

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

applicable driving test

ADT

single driving test schedule which is specified for each region

EXAMPLE Chassis dynamometer test cycle for light-duty vehicles in Japan (JC08), New European Driving Cycle (NEDC), Urban Dynamometer Driving Schedule (UDDS).

3.2

charge balance of battery

change of charge in battery during fuel consumption measurement

Note 1 to entry: Normally expressed in Ah.

3.3

energy balance of battery

ΔE_{RESS}

change of energy in battery during fuel consumption measurement

Note 1 to entry: Normally expressed in Wh.

Note 2 to entry: For practical use, the energy balance of a rechargeable energy storage system (RESS) is approximated by multiplying the charge balance of battery in Ah by the nominal voltage in V. "Nominal voltage" is defined in ISO 12405-1 or ISO 12405-2.

3.4

fuel cell hybrid electric vehicle

FCHEV

electrically propelled vehicle with a RESS and a fuel cell system as power sources for vehicle propulsion