Technical Report

ISO/TR 11954

Fuel cell road vehicles — Performance measurement — Vehicles fuelled with compressed hydrogen

Véhicules routiers avec pile à combustible — Mesure des performances — Véhicules alimentés par hydrogène comprimé

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Foreword

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This document was prepared by Technical Committee ISO/TC *22*, *Road vehicles*, Subcommittee SC 37, *Electrically propelled vehicles.*

This second edition cancels and replaces the first edition (ISO/TR 11954:2008), which has been technically revised.

The main changes compared to the previous edition are as follows:

— revision of the scope;

— addition of normative references;

— addition of terms and definitions, e.g. complete vehicle kerb mass, maximum thirty minutes speed, acceleration, speed uphill and hill starting performance;

— addition of driving performance tests, e.g. maximum thirty minutes speed, acceleration, speed uphill and hill starting performance;

— revision of the method for adjusting the RESS SOC;

— addition of driving mode setting method.

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Fuel cell road vehicles — Performance measurement — Vehicles fuelled with compressed hydrogen

1 Scope

This document specifies test methods for the measurement of performance, such as acceleration, maximum speed and hill climbing ability, of fuel cell hybrid electric vehicles (FCHEV) as passenger cars and light duty trucks with a maximum authorized total mass of 3 500 kg and fuelled with compressed hydrogen.

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/TR 8713:2019, *Electrically propelled road vehicles — Vocabulary*

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
acceleration ability
shortest time required to accelerate the vehicle from speed v_1 to speed v_2

[SOURCE: ISO 8715:2001, 3.7, modified — Note 1 to entry was removed.]

3.2
complete vehicle kerb mass
mass of the vehicle including batteries, without occupants but with fuel, cooling liquid, window washer fluid, lubricating oil, tools and spare wheel, on-board charger, portable charger or part of it, if provided as standard equipment by the vehicle manufacturer

[SOURCE: ISO 8715:2001, 3.1]

3.3
dynamic loaded radius
effective radius of a tyre when it is deformed by the mass of the vehicle loaded to its *test mass* (3.14)

[SOURCE: ISO 8715:2001, 3.4]

3.4
FCHEV operation mode
fuel cell hybrid electric vehicle operation mode
mode of a *fuel cell hybrid electric vehicle (FCHEV)* (3.5) in which both a *rechargeable energy storage system (RESS)* (3.10) and fuel cell system are used sequentially or simultaneously for vehicle propulsion

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