INTERNATIONAL STANDARD

ISO 10521

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Motor vehicle road load — Determination under reference atmospheric conditions and reproduction on chassis dynamometer

Résistance sur route des véhicules à moteur — Détermination dans les conditions atmosphériques de référence et reproduction sur banc dynamométrique

Reference number
ISO 10521:1992(E)

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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10521 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Sub-Committee SC 5, *Engine tests*.

Annexes A, B, C and D form an integral part of this International Standard. Annex E is for information only.

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Motor vehicle road load — Determination under reference atmospheric conditions and reproduction on chassis dynamometer

1 Scope

This International Standard specifies methods of setting a chassis dynamometer for test purposes, for example for fuel consumption tests or exhaust emission measurements. This setting reproduces the road load of a vehicle running on a level road under reference atmospheric conditions. It is achieved by either the coastdown or the torquemeter method.

This International Standard gives detailed instructions on the measurement of relevant parameters during data collection, on the analysis techniques for the reduction and correction of these data to the reference conditions and on the methods used for transfer of the corrected data to a chassis dynamometer.

It does not deal either with the procedures concerning the various tests that may be performed on the chassis dynamometer or with any necessary corrections to the measurement results obtained during such tests.

This International Standard applies to motor vehicles as defined in ISO 3833 up to a gross vehicle mass of 3 500 kg.

NOTE 1 This International Standard has been prepared taking into account existing regulations. Its objective is not to summarize all existing methods but rather to define a reference method.

For information, annex E gives a comparative table with the following existing regulations:

— ECE 15/04 TRANS/SC1/WP29/R374 (22 November 1985)

— USA EPA A/C 55C (12 December 1986)

— Japan TRIAS 24-3-1985 (22 October 1985)

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3833:1977, *Road vehicles — Types — Terms and definitions.*

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 total resistance: Total force resisting movement of a vehicle, measured by the coastdown method which includes the friction forces in the drive-train.

3.2 running resistance: Torque resisting movement of a vehicle, measured by the torquemeter installed in the drive-train of a vehicle. It includes the friction torque in the drive-train downstream of the torquemeter.

3.3 road load: This has a general meaning of the force or torque which opposes movement of a vehicle, including total resistance and/or running resistance.

3.4 reference speed: Vehicle speed at which the dynamometer load setting is required. Where a steady state test is to be performed subsequently, the reference speed should be identical to the steady state test speed.