

Road vehicles — Brake lining assemblies — Inertia dynamometer test method

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Summary of pages

This document comprises a front cover, an inside front cover, the ISO title page, pages ii and iii, a blank page, pages 1 to 16, an inside back cover and a back cover.

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*Véhicules routiers — Ensembles de garniture de frein — Méthode d'essai
sur banc dynamométrique à inertie*



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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 11157 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 2, *Braking systems and equipment*.

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1 Scope

This International Standard specifies a dynamometer test method to homologate alternative types of brake linings (including pads) mounted on original equipment, in accordance with UN-ECE Regulation No. 13-08, annex 15.

This International Standard is applicable to road vehicles of categories M, N and O (see 3.1) as defined in UN-ECE *Consolidated resolution of the construction of vehicles*, RE.3, annex 7.

Application for approval corresponding to this test method is to be made by the vehicle manufacturer (in the case of vehicles of category O the application is to be made by the axle or brake manufacturer) or by his duly accredited representative.

The values in square brackets [] are taken from UN-ECE Regulation No. 13-08 for information.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 611:1994, *Road vehicles — Braking of automotive vehicles and their trailers — Vocabulary*.

ISO 1176:1990, *Road vehicles — Masses — Vocabulary and codes*.

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

UN-ECE Regulation No. 13, *Uniform provisions concerning the approval of vehicles of categories M, N and O with regard to braking* (incorporating the 08 series of amendments).

3 Definitions and symbols

3.1 Definitions

For the purposes of this International Standard, the definitions given in ISO 611, ISO 1176, ISO 3833 and the following definitions apply.

3.1.1

category M

power-driven vehicles having at least four wheels or having three wheels when the maximum mass exceeds 1 t, and used for the carriage of passengers [UN-ECE Regulation No. 13-08]

3.1.2**category N**

power-driven vehicles having at least four wheels or having three wheels when the maximum mass exceeds 1 t, and used for the carriage of goods [UN-ECE Regulation No. 13-08]

3.1.3**category O**

trailers (including semi-trailers) [UN-ECE Regulation No. 13-08]

3.2 Symbols

For the purposes of this International Standard, the symbols given in Table 1 apply.

Table 1 — Symbols

Symbol	Unit	Description
I	kg·m ²	Rotational inertia
r	m	Dynamic tyre rolling radius
m	kg	Mass
v	km/h	Speed
v_1	km/h	Initial speed at the initiation of braking
n	—	Number of revolutions
n_0	—	Number of revolutions until stop
T_n	N·m	Braking torque averaged over number of revolutions
T_{nc}	N·m	Calculated braking torque averaged over number of revolutions
T_t	N·m	Braking torque averaged over time
T_{tc}	N·m	Calculated braking torque averaged over time
$T(n)$	N·m	Measured braking torque as a function of revolutions
$T(t)$	N·m	Measured braking torque as a function of time
$t,$	s	Time
t_0	s	Stopping time
ω	l/s	Initial angular speed
$\omega(t)$	l/s	Measured angular speed as a function of time

4 General

4.1 The test method described can be applied in the event of a modification of vehicle type resulting from the fitting of alternative types of brake linings on the original equipment of vehicles which have been approved in accordance with UN-ECE Regulation No. 13-08.