

Passenger car tyres — Method for measuring relative wet grip performance — Loaded new tyres

ICS 83.160.10

National foreword

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The UK participation in its preparation was entrusted to Technical Committee AUE/4, Tyres and wheels for motor vehicles, which has the responsibility to:

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- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep UK interests informed;
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Summary of pages

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

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 March 2006

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ISBN 0 580 47989 7

Amendments issued since publication

Amd. No.	Date	Comments

INTERNATIONAL STANDARD

ISO
23671

First edition
2006-02-15

Passenger car tyres — Method for measuring relative wet grip performance — Loaded new tyres

*Pneumatiques pour voitures particulières — Méthode de mesure
de l'adhérence relative sur revêtement mouillé — Pneumatiques neufs
en charge*



Reference number
ISO 23671:2006(E)



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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.

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Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 23671 was prepared by Technical Committee ISO/TC 31, *Tyres, rims and valves*, Subcommittee SC 3, *Passenger car tyres and rims*.

Passenger car tyres — Method for measuring relative wet grip performance — Loaded new tyres

1 Scope

This International Standard specifies the method for measuring relative wet grip braking performance index to a reference under loaded conditions for new tyres for use on passenger cars on a wet-paved surface.

The methods developed are meant to reduce variability. The use of a reference tyre is necessary to limit the variability of the testing procedures.

This International Standard applies to all passenger car tyres.

2 Normative references

The following referenced documents are indispensable for the application 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 4000-1, *Passenger car tyres and rims — Part 1: Tyres (metric series)*

ASTM E 303:1993 (re-approved in 1998), *Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester*

ASTM E 501, *Standard Specification for Standard Rib Tire for Pavement Skid-Resistance Tests*

ASTM E 965, *Standard Test Method for Measuring Pavement Macrottexture Depth Using a Volumetric Technique*

ASTM E 1136, *Standard Specification for a Radial Standard Reference Test Tire*

NF P 98-216-2:1994, *Test relating to pavements. Measurement of the macrottexture — Part 2: Method for measuring, without contact*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

test run

single pass of a loaded tyre over a given test surface

3.2

candidate tyre (set)

test tyre (set) that is part of an evaluation programme

3.3

reference tyre (set)

special test tyre (set) that is used as a benchmark in an evaluation programme

NOTE These tyres usually have carefully controlled design features to minimize variation.

3.4

control tyre (set)

tyre (set) that is part of an evaluation programme; it is an intermediate tyre (set) which is used when the candidate tyre and the reference tyre cannot be directly compared on the same vehicle

3.5

braking force of a tyre

longitudinal force, expressed in newtons, resulting from braking torque application

3.6

braking force coefficient of a tyre

ratio of braking force to vertical load

3.7

peak braking force coefficient of a tyre

maximum value of tyre braking force coefficient that occurs prior to wheel lockup as the braking torque is progressively increased

3.8

lockup of a wheel

condition of a wheel in which its rotational velocity about the wheel spin axis is zero and it is prevented from rotating in the presence of applied wheel torque

3.9

vertical load

normal reaction of the tyre on the road

3.10

tyre test vehicle

dedicated vehicle which has instruments to measure the vertical and the longitudinal forces on one tyre during braking

4 Methods for measuring wet grip

Relative wet grip braking performance for loaded passenger car new tyres travelling straight ahead on a wet, paved surface can be measured by one of the following methods:

- vehicle method consisting of testing a set of tyres mounted on a standard vehicle;
- test method using a trailer or a tyre test vehicle equipped with the test tyres.

5 General test conditions

5.1 Track characteristics

The surface shall have a uniform grade of not more than 2 % and shall not deviate more than 6 mm when tested with a 3 m straight edge.

The test surface shall have a pavement of uniform age, composition, and wear. The test surface shall be free of loose material and foreign deposits.