BSI Standards Publication

Passenger car tyres — Verifying tyre capabilities — Laboratory test methods

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National foreword

This British Standard is the UK implementation of ISO 10191:2021. It supersedes BS ISO 10191:2010, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee AUE/4, Tyres and wheels for motor vehicles.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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

This fourth edition cancels and replaces the third edition (ISO 10191:2010), which has been technically revised. The main changes compared with the previous edition are as follows:

— separation of test methods and requirements for radial tyres and diagonal tyres, bias-belted tyres and T-type temporary spare tyres;

— replace the descriptions of strength test and bead unseating test by reference to the corresponding ASTM standards;

— align endurance test and high-speed test for radial tyres with UN GTR No. 16[1];

— allow PTFE coating of drums for endurance test;

— reduce conditioning time for high-speed test;

— allow drum acceleration in steps;

— editorial changes to improve consistency of the text and align with terms defined in ISO 4223-1:2017.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

INTERNATIONAL STANDARD ISO 10191:2021

Passenger car tyres — Verifying tyre capabilities — Laboratory test methods

1 Scope

This document specifies test methods for verifying the capabilities of tyres for passenger cars. Of the test methods presented, it is possible that only some will be required depending on the construction of the tyre (diagonal, bias-belted, radial or T-type construction) to be tested. The tests are carried out in a laboratory under controlled conditions.

This document includes endurance tests, a low-pressure performance test, high-speed tests and requirements for bead unseating and tyre strength.

The test methods presented in this document are not intended for gradation of tyre performance or quality levels. This document applies to all passenger car tyres.

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 4223-1:2017, *Definitions of some terms used in the tyre industry — Part 1: Pneumatic tyres*

ASTM F414-15, *Standard Test Method for Energy Absorbed by a Tire When Deformed by Slow-Moving Plunger*

ASTM F2663-15, *Standard Test Method for Bead Unseating of Tubeless Passenger and Light Truck Tires*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4223-1:2017 and the following apply.

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

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

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

3.1
bead separation
breakdown of bond between components in the bead area

[SOURCE: ISO 4223-1:2017, 3.8.1]

3.2
belt separation
parting of rubber compound between belt layers or between belts and plies

[SOURCE: ISO 4223-1:2017, 3.8.2]