
**Road vehicles — Wheels/rims for
commercial vehicles — Test methods**

*Véhicules routiers — Roues/jantes pour véhicules utilitaires —
Méthodes d'essai*



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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 22, *Road vehicles*, Subcommittee SC 33, *Vehicle dynamics, chassis components and driving automation systems testing*.

This fifth edition cancels and replaces the fourth edition (ISO 3894:2015), which has been technically revised.

The main changes are as follows:

- correction of required cycles for radial testing of aluminium wheels;
- editorial changes.

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.

Introduction

This document was developed in response to requests to establish uniform test methods to evaluate certain fatigue strength characteristics of wheels used on commercial vehicles. Although this document is the International Standard for wheel fatigue testing due to the ubiquity of testing resources, there are also other regionally acceptable testing standards for fatigue strength characteristics, such as biaxial testing. Some examples of other regional entry level testing requirements include Japan's JIS D4103, China's GBT 5909, India's IS 9438, US' SAE J267, Brazil INMETRO's NBR 6751, and the European standard EUWA ES3.11.

The standardization of test methods allows manufacturers of vehicles and/or wheels to evaluate their products in a uniform manner. By using these methods, wheels from different parts of the world can be compared and evaluated for use.

Road vehicles — Wheels/rims for commercial vehicles — Test methods

1 Scope

This document specifies two laboratory methods for testing certain essential strength characteristics of disc wheels intended for road use on commercial vehicles, buses, trailers, and multipurpose passenger vehicles, as defined in ISO 3833.

The test methods are:

- dynamic cornering fatigue test and
- dynamic radial fatigue test.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

test bolt

test fastener

bolt that is attached to the hub/test fixture before mounting the wheel

3.2

wheel nut

wheel fastener

nut for fastening the wheel as a set with the *test bolts (fasteners)* (3.1)

3.3

load rating

value obtained by converting the force to mass which can be loaded under defined conditions to the tyres which can be applied to the test wheel

3.4

maximum vertical static load

maximum value of the vertical load acting on the tyres

Note 1 to entry: It is specified by the wheel manufacturer or the vehicle manufacturer and it derives from the specifications of a vehicle which is intended to use the test wheel.