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Tyre stiffness index testing procedure for passenger car extended mobility and run flat tyres

Procédure d'essai de l'indice de rigidité de pneumatiques à mobilité étendue et pour roulage à plat pour voiture particulière

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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).

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For an explanation on 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 the following URL: 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*.

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Tyre stiffness index testing procedure for passenger car extended mobility and run flat tyres

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1 Scope

This document specifies the testing method for determining the tyre stiffness index of passenger car tyres for the products capable of supplying the vehicle with the basic tyre functions, at least, at a speed of 80 km/h (50 mph) and a distance of 80 km when operating in flat tyre running mode, as per ISO 16992.

This method is meant to determine the above mentioned index, for the characterization of the expected tyre's stiffness through its air and structural components.

To reach the target, the vertical force and the vertical deflection, in the sense of absolute position in *Z* direction under different operating conditions, are measured (approximated in case of zero inflation pressure) and combined through the metrics defined in this document.

This method is not intended to be used for conventional 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 4000-1, *Passenger car tyres and rims — Part 1: Tyres (metric series)*

ISO 4000-2, *Passenger car tyres and rims — Part 2: Rims*

ISO 16992, *Passenger car tyres — Spare unit substitutive equipment (SUSE)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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
conventional tyre
pneumatic tyre designed for use in an inflated state

3.2
run flat tyre
self supporting tyre
SST
pneumatic tyre structure provided with any technical solutions (for example, reinforced sidewalls, etc.) designed to operate in an inflated mode and allowing the tyre, mounted on the appropriate wheel and in the absence of any supplementary component, to supply the vehicle with the basic tyre functions at a specified speed and distance when operating in flat tyre running mode

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