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Passenger cars — Steady-state circular driving behaviour — Open-loop test methods

Voitures particulières — Tenue de route en régime permanent sur trajectoire circulaire — Méthodes d'essai en boucle ouverte



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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 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 and chassis components*.

This fifth edition cancels and replaces the fourth edition (ISO 4138:2012), which has been technically revised.

The main changes compared to the previous edition are as follows:

- editorial changes,
- a third variation of the constant speed test method was added. This variation involves slowly increasing the steering-wheel angle.

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.

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Introduction

The main purpose of this document is to provide repeatable and discriminatory test results.

The dynamic behaviour of a road vehicle is a very important aspect of active vehicle safety. Any given vehicle, together with its driver and the prevailing environment, constitutes a closed-loop system that is unique. The task of evaluating the dynamic behaviour is, therefore, very difficult since the significant interactions of these driver-vehicle-environment elements are each complex in themselves. A complete and accurate description of the behaviour of the road vehicle involves information obtained from a number of different tests.

Since this test method quantifies only one small part of the complete vehicle handling characteristics, the results of these tests can only be considered significant for a correspondingly small part of the overall dynamic behaviour.

Moreover, insufficient knowledge is available concerning the relationship between overall vehicle dynamic properties and accident avoidance. A substantial amount of work is necessary to acquire sufficient and reliable data on the correlation between accident avoidance and vehicle dynamic properties in general and the results of these tests in particular. Consequently, any application of this test method for regulation purposes will need proven correlation between test results and accident statistics.