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## **Acoustics — Specification of test tracks for measuring sound emitted by road vehicles and their tyres**

*Acoustique — Spécification des surfaces d'essai pour le mesurage du son émis par les véhicules routiers et leurs pneumatiques*



Reference number  
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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](http://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](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*.

This fourth edition cancels and replaces the third edition (ISO 10844:2014), which has been technically revised.

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

- various revisions to improve track reproducibility;
- reduce ambiguity in the document.

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](http://www.iso.org/members.html).

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## Introduction

In general, the road surface parameters affecting the sound emission of vehicles are the texture and sound absorption characteristics. In addition, the mechanical impedance and the skid resistance properties of the surface layer can influence measured sound levels.

In order to minimize the variation in rolling sound emission and vehicle sound emission measurements made at different testing locations, it is therefore necessary to specify the relevant surface properties and recommend carefully the properties of the materials, design, and construction of the test surface.

The principal objective of this document is to provide a specification of the surface which improves the reproducibility of measurement.

This document is designed in a way that test tracks conforming to this document are compatible with previous editions, but in addition the variability of properties is reduced.

It is important that the test provides a high degree of reproducibility between different test sites and that the surface design should not only minimize the inter-site variation of tyre or road sound, but should also ensure that the propagation of sound is unaffected by the surface used. This latter consideration precludes the use of road surfaces which have open textures and which have the property of absorbing sound from the power unit and other related sources.

In relation to the previous editions, this document includes more restrictive specifications of the surface and recommendations for the test track construction process and maintenance. The basic properties of the surface remain unchanged.

Furthermore, this document recommends a non-destructive test method for periodic checking of the surface characteristics.