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Acoustics — Specification of test tracks for measuring noise emitted by road vehicles and their tyres

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



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 10844 was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*, in cooperation with ISO/TC 22, *Road vehicles*.

This second edition cancels and replaces the first edition (ISO 10844:1994), of which it constitutes a technical revision.

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Introduction

In general, the road surface parameters affecting the noise emission of vehicles are the texture and sound absorption characteristics. In addition, the mechanical impedance and the skid resistance properties of the surface layer may also influence measured noise 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, construction of the test surface.

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

This International Standard is designed in a way that test tracks conforming to this International Standard are compatible with ISO 10844:1994, 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/road noise, but should also ensure that the propagation of noise 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 noise from the power unit and other related sources.

This International Standard is a revised version of ISO 10844:1994, including more restrictive specifications of the surface and recommendations for the test track construction process and maintenance. The basic properties of the surface remain unchanged.

The users of this International Standard are encouraged to measure END_T and to communicate the data to the ISO/TC 43/SC 1/WG 42 for analysis before the next periodical review.

Furthermore, this International Standard recommends a non destructive test method for periodical checking of the surface characteristics.

ISO 10844 is quoted in several International Standards (e.g. ISO 362, ISO 13325).