

**Implementation of
ISO 10844 : 1994**

**Acoustics —
Specification of test tracks for
the purpose of measuring noise
emitted by road vehicles**

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee EPC/1, Acoustics, upon which the following bodies were represented:

- Association of Consulting Engineers
- British Broadcasting Corporation
- British Occupational Hygiene Society
- British Telecommunications plc
- Department of the Environment (Building Research Establishment)
- Department of Trade and Industry (National Physical Laboratory)
- Health and Safety Executive
- Institute of Acoustics
- Institute of Occupational Hygienists
- Institute of Sound and Vibration Research
- Institute of Electrical Engineers
- Royal Institute of British Architects
- Society of Environmental Engineers

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

- Agricultural Engineers Association
- British Internal Combustion Engine Research Institute Limited
- Chamber of Shipping
- Department of Transport
- Department of Transport (Transport Research Laboratory)
- Institute of Marine Engineers
- London Regional Transport
- Motor Industry Research Association
- Open University
- Railway Industry Association
- Royal Automobile Club
- Society of Motor Manufacturers and Traders Limited
- University of Bradford

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National foreword

This British Standard reproduces verbatim ISO 10844 : 1994 and implements it as the UK national standard.

This British Standard is published under the direction of the Health and Environment Sector Board (H/-) whose Technical Committee EPC/1, Acoustics, has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international committee any enquiries on interpretation, or proposals for change, and keep UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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INTERNATIONAL STANDARD

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Acoustics — Specification of test tracks for the purpose of measuring noise emitted by road vehicles

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



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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.

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.

International Standard ISO 10844 was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*.

Annex A forms an integral part of this International Standard. Annexes B, C, D, E and F are for information only.

Introduction

Measurements of vehicle noise emission taken in accordance with the procedures described in ISO 362 and ISO 7188 can be influenced significantly by the type of road or test track surface on which the vehicles are run. In general, the road surface parameters affecting the noise emission of vehicles are the texture characteristics, sound absorption and possibly also mechanical impedance or stiffness properties of the surface layer.

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

The principal objective of the test method described in ISO 362 is to provide a method of testing the noise emitted from the power unit related sources on the vehicle and, therefore, implicitly, with no significant contribution from the tyre/road interaction noise. Similarly, the test method described in ISO 7188 refers explicitly to the contribution of tyre/road noise and states that the surface should provide for minimum tyre/road noise during the test. Consequently, it can be assumed that any test track specification used for vehicle noise testing according to these International Standards should attempt to minimize the contribution of noise from the tyre/road interaction.

In addition, it is important that if the test is to provide a high degree of reproducibility between different test sites, the surface design should not only minimize the variation in vehicle noise induced by the intersite variation of tyre/road noise, but should also ensure that the noise generated by the power unit related sources on the vehicle 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.

Annex A specifies a method for test surface macrotexture measurement. Annex B gives guidelines regarding how an appropriate test surface can be constructed, without giving any guarantee that the implementation will be entirely successful. Annex C discusses some general considerations and annex D gives guidance on the expected reproducibility. Annex E gives information on the harmonization of this International Standard with other standards (in-service or proposed). Annex F is a bibliography.

