

Acoustics — Hearing protectors —

Part 5: Method for estimation of noise reduction using fitting by inexperienced test subjects

ICS 13.340.20

National foreword

This Draft for Development was published by BSI. It is the UK implementation of ISO/TS 4869-5:2006.

This publication is not to be regarded as a British Standard.

It is being issued in the Draft for Development series of publications and is of a provisional nature. It should be applied on this provisional basis, so that information and experience of its practical application can be obtained.

Comments arising from the use of this Draft for Development are requested so that UK experience can be reported to the international organization responsible for its conversion to an international standard. A review of this publication will be initiated not later than 3 years after its publication by the international organization so that a decision can be taken on its status. Notification of the start of the review period will be made in an announcement in the appropriate issue of *Update Standards*.

According to the replies received by the end of the review period, the responsible BSI Committee will decide whether to support the conversion into an international Standard, to extend the life of the Technical Specification or to withdraw it. Comments should be sent to the Secretary of the responsible BSI Technical Committee at British Standards House, 389 Chiswick High Road, London W4 4AL.

The UK participation in its preparation was entrusted by Technical Committee EH/1, Acoustics, to Subcommittee EH/1/1, Hearing.

A list of organizations represented on EH/1/1 can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Acoustics — Hearing protectors —

Part 5:

Method for estimation of noise reduction using fitting by inexperienced test subjects

Acoustique — Protecteurs individuels contre le bruit —

*Partie 5: Méthode d'estimation de la réduction du bruit au moyen de
réglages par des sujets d'essai non expérimentés*



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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.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of normative document:

- an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;
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An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

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/TS 4869-5 was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*.

ISO/TS 4869 consists of the following parts, under the general title *Acoustics — Hearing protectors*:

- *Part 1: Subjective method for the measurement of sound attenuation*
- *Part 2: Estimation of effective A-weighted sound pressure levels when hearing protectors are worn*
- *Part 3*¹⁾: *Measurement of insertion loss of ear-muff type protectors using an acoustic test fixture*
- *Part 4: Measurement of effective sound pressure levels for level-dependent sound-restoration ear-muffs (ISO/TR)*
- *Part 5: Method for estimation of noise reduction using fitting by inexperienced test subjects (ISO/TS)*

1) To be published.

The following part is under development:

— *Part 6: Active noise reduction of hearing protectors* ²⁾

Annex A of this part of ISO 4869 is for information only.

2) Presently a preliminary work item.

Introduction

Hearing protectors are used to reduce the noise to which the ear is exposed. Hearing protectors are generally divided into ear-muffs and ear-plugs with a great variety of products within both categories. The measurement conditions given in this Technical Specification – making use of inexperienced hearing protector users – is believed to provide results that are representative for the noise reduction obtained by groups of typical users in real-world occupational settings.

The method described in ISO 4869-1 yields the sound attenuation of the hearing protector under test. The result of the measurement is a pure physical characteristic of the hearing protector.

The method described in this Technical Specification yields the performance of the system as a whole, i.e. hearing protector, test subjects, fitting and instruction.