

**Acoustics - Reference zero for the
calibration of audiometric equipment -
Part 5: Reference equivalent threshold
sound pressure levels for pure tones in
the frequency range 8 kHz to 16 kHz**

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audiometric equipment - Part 5: Reference
equivalent threshold sound pressure levels for pure
tones in the frequency range 8 kHz to 16 kHz

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 389-5:2006 sisaldab Euroopa standardi EN ISO 389-5:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 21.12.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 389-5:2006 consists of the English text of the European standard EN ISO 389-5:2006.</p> <p>This document is endorsed on 21.12.2006 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This part of ISO 389 specifies reference equivalent threshold sound pressure levels (RETSPLs) of pure tones in the frequency range from 8 kHz to 16 kHz applicable to the calibration of air conduction audiometers for specific earphones.</p>	<p>Scope:</p> <p>This part of ISO 389 specifies reference equivalent threshold sound pressure levels (RETSPLs) of pure tones in the frequency range from 8 kHz to 16 kHz applicable to the calibration of air conduction audiometers for specific earphones.</p>
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Võtmesõnad: acoustics, audiometers, audiometry, auditory threshold, calibration, reference data, sound pressure

English Version

Acoustics - Reference zero for the calibration of audiometric equipment - Part 5: Reference equivalent threshold sound pressure levels for pure tones in the frequency range 8 kHz to 16 kHz (ISO 389-5:2006)

Acoustique - Zéro de référence pour l'étalonnage d'équipements audiométriques - Partie 5: Niveaux de référence équivalents de pression acoustique liminaire pour les sons purs dans le domaine de fréquences de 8 kHz à 16 kHz (ISO 389-5:2006)

Akustik - Standard-Bezugspegel für die Kalibrierung audiometrischer Geräte - Teil 5: Äquivalente Bezugs-Schwellenschalldruckpegel für reine Töne im Frequenzbereich 8 kHz bis 16 kHz (ISO 389-5:2006)

This European Standard was approved by CEN on 6 November 2006.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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Foreword

This document (EN ISO 389-5:2006) has been prepared by Technical Committee ISO/TC 43 "Acoustics" in collaboration with Technical Committee CEN/TC 211 "Acoustics", the secretariat of which is held by DS.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2007, and conflicting national standards shall be withdrawn at the latest by May 2007.

This document supersedes EN ISO 389-5:1999.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of ISO 389-5:2006 has been approved by CEN as EN ISO 389-5:2006 without any modifications.

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audiométriques —*

*Partie 5: Niveaux de référence équivalents de pression acoustique
liminaire pour les sons purs dans le domaine de fréquences de 8 kHz à
16 kHz*



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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 389-5 was prepared by Technical Committee ISO/TC 43, *Acoustics*.

This first edition of ISO 389-5 cancels and replaces ISO/TR 389-5:1998, which has been technically revised.

ISO 389 consists of the following parts, under the general title *Acoustics — Reference zero for the calibration of audiometric equipment*:

- *Part 1: Reference equivalent threshold sound pressure levels for pure tones and supra-aural earphones*
- *Part 2: Reference equivalent threshold sound pressure levels for pure tones and insert earphones*
- *Part 3: Reference equivalent threshold force levels for pure tones and bone vibrators*
- *Part 4: Reference levels for narrow-band masking noise*
- *Part 5: Reference equivalent threshold sound pressure levels for pure tones in the frequency range 8 kHz to 16 kHz*
- *Part 6: Reference hearing threshold levels for test signals of short duration*
- *Part 7: Reference threshold of hearing under free-field and diffuse-field listening conditions*
- *Part 8: Reference equivalent threshold sound pressure levels for pure tones and circumaural earphones*

A part 9, dealing with the preferred test conditions for the determination of reference hearing threshold levels is under development.

Introduction

An International Standard for extended high frequency audiometers has already been published as IEC 60645-4. Adaptors to be used with the IEC 60318-1 ear simulator to provide an interim acoustic coupler for the calibration of circumaural audiometric earphones in the extended high frequency range presently are standardized in IEC 60318-2 (to be included in a revised IEC 60318-1). The reference equivalent threshold sound pressure levels for specific circumaural and insert earphones described in this International Standard enable calibration of those audiometers which are equipped with these earphones, in order to promote agreement and uniformity in the expression of hearing threshold level measurements worldwide.

Annexes A and B of this part of ISO 389 are for information only. A Bibliography is given at the end of this International Standard.

Acoustics — Reference zero for the calibration of audiometric equipment —

Part 5: Reference equivalent threshold sound pressure levels for pure tones in the frequency range 8 kHz to 16 kHz

1 Scope

This part of ISO 389 specifies reference equivalent threshold sound pressure levels (RETSPLs) of pure tones in the frequency range from 8 kHz to 16 kHz applicable to the calibration of air conduction audiometers for specific earphones.

NOTE Some notes and references on the derivation and the test conditions used to determine the reference levels are given in Annex A and the Bibliography.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 389-1, *Acoustics — Reference zero for the calibration of audiometric equipment — Part 1: Reference equivalent threshold sound pressure levels for pure tones and supra-aural earphones*

ISO 389-2:1994, *Acoustics — Reference zero for the calibration of audiometric equipment — Part 2: Reference equivalent threshold sound pressure levels for pure tones and insert earphones*

IEC 60318-1¹⁾, *Electroacoustics — Simulators for human head and ear — Part 1: Ear simulator for the calibration of supra-aural and circumaural earphones*

IEC 60318-2:1998²⁾, *Electroacoustics — Simulators for human head and ear — Part 2: An interim acoustic coupler for the calibration of audiometric earphones in the extended high-frequency range*

IEC 60711³⁾, *Occluded-ear simulator for the measurement of earphones coupled to the ear by ear inserts*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 389-1 and IEC 60318-1 apply.

1) Under revision.

2) To be withdrawn; its contents will be included in a revised IEC 60318-1.

3) To become IEC 60318-4.