

INTERNATIONAL STANDARD

ISO
389-2

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Acoustics — Reference zero for the calibration of audiometric equipment —

Part 2:

Reference equivalent threshold sound
pressure levels for pure tones and insert
earphones

*Acoustique — Zéro de référence pour l'étalonnage d'équipements
audiométriques —*

*Partie 2: Niveaux de référence équivalents de pression acoustique
liminaire pour les écouteurs à son purs et à insertion*



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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 389-2 was prepared by Technical Committee ISO/TC 43, *Acoustics*.

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 equivalent threshold sound pressure levels for acoustic test signals of short duration*
- *Part 7: Reference threshold of hearing under free-field and diffuse-field listening conditions*

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Part 1 will be a re-issue of ISO 389:1991.

Annexes A and B of this part of ISO 389 are for information only.

Introduction

Each part of International Standard ISO 389 specifies a specific reference zero for the calibration of audiometric equipment. ISO 389:1991 (to be re-issued as ISO 389-1) contains values of reference equivalent threshold sound pressure levels (RETSPL) for pure tones and two specified patterns of supra-aural earphones used in conjunction with an acoustic coupler conforming to IEC 303, and for other supra-aural earphones of specified patterns in conjunction with an artificial ear conforming to IEC 318. ISO 389-4 specifies reference levels for narrow-band masking noise based on these RETSPL data.

In some audiological applications it may, however, be desirable to use insert earphones to deliver either the test signal or the masking noise, e.g. to reduce the occlusion effect or interaural effects. RETSPL data for these kinds of earphone are specified in this part of ISO 389. It is based on an assessment of technical data provided by laboratories in different countries representing the most reliable data available at the time.

It is recognized that small differences may occur between results of hearing threshold level measurements obtained by audiometric equipment using different patterns of earphone, i.e. supra-aural or insert earphones.