SLOVENSKI STANDARD
SIST EN ISO 8253-1:2011

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Nadomešča:
SIST EN 26189:1999
SIST EN ISO 8253-1:1999

Akustika - Avdiometrijske preskusne metode - 1. del: Avdiometrija s čistimi toni za zračno in kostno prevodnost (ISO 8253-1:2010)

Acoustics - Audiometric test methods - Part 1: Pure-tone air and bone conduction audiometry (ISO 8253-1:2010)

Akustik - Audiometrische Prüfverfahren - Teil 1: Grundlegende Verfahren der Luft- und Knochenleitungs-Schwellenaudiometrie mit reinen Tönen (ISO 8253-1:2010)

Acoustique - Méthodes d'essais audiométriques - Partie 1: Audiométrie à sons purs en conduction aérienne et en conduction osseuse (ISO 8253-1:2010)

Ta slovenski standard je istoveten z: **EN ISO 8253-1:2010**

ICS:

13.140	Vpliv hrupa na ljudi	Noise with respect to human beings
17.140.01	Akustična merjenja in blaženje hrupa na splošno	Acoustic measurements and noise abatement in general

SIST EN ISO 8253-1:2011 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 8253-1

November 2010

ICS 13.140

Supersedes EN 26189:1991, EN ISO 8253-1:1998

English Version

Acoustics - Audiometric test methods - Part 1: Pure-tone air and bone conduction audiometry (ISO 8253-1:2010)

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COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN ISO 8253-1:2010) 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of an identical text or by endorsement, at the latest by May 2011, and conflicting national standards shall be withdrawn at the latest by May 2011.

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Endorsement notice

The text of ISO 8253-1:2010 has been approved by CEN as a EN ISO 8253-1:2010 without any modification.

INTERNATIONAL STANDARD

ISO 8253-1

Second edition
2010-11-01

Acoustics — Audiometric test methods —

Part 1: Pure-tone air and bone conduction audiometry

Acoustique — Méthodes d'essais audiométriques —

Partie 1: Audiométrie à sons purs en conduction aérienne et en conduction osseuse

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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 8253-1 was prepared by Technical Committee ISO/TC 43, *Acoustics*.

This second edition cancels and replaces the first edition (ISO 8253-1:1989) and ISO 6189:1983, which have been technically revised.

ISO 8253 consists of the following parts, under the general title *Acoustics — Audiometric test methods*:

— *Part 1: Pure-tone air and bone conduction audiometry*

— *Part 2: Sound field audiometry with pure-tone and narrow-band test signals*

— *Part 3: Speech audiometry*

Introduction

This International Standard specifies requirements and procedures for carrying out basic audiometric tests in which pure tones are presented to the test subject using earphones or bone vibrators. Electrophysiological test methods are not included.

In order to obtain a reliable measure of hearing ability, many factors are involved. IEC 60645-1 specifies requirements for audiometers. It is essential that audiometric equipment, when in service, be checked and the calibration maintained. This part of ISO 8253 outlines a calibration scheme. To avoid masking of the test signal by ambient noise in the audiometric test room, the levels of the ambient noise shall not exceed certain values, depending upon the method of signal presentation to the test subject, i.e. by different earphones or by bone vibrator. This part of ISO 8253 gives maximum permissible ambient sound pressure levels which shall not be exceeded when hearing threshold levels down to 0 dB have to be measured. It indicates the maximum ambient sound pressure levels which are permissible when other minimum hearing threshold levels require measurement. It sets out procedures for determining hearing threshold levels by pure-tone air conduction and bone conduction audiometry. For screening purposes, only methods for air conduction audiometry are outlined.

Audiometry can be performed by using:

a) a manual audiometer;

b) an automatic recording audiometer;

c) computer-controlled audiometric equipment.

Methods for threshold audiometry are given for these three types of signal presentation. For screening purposes, only methods using a manual or a computer-controlled audiometer are set out. The procedures are applicable to the majority of adults and children. Other procedures may yield results equivalent to those derived by the procedures specified in this part of ISO 8253. For very young, aged or sick people, some modification of the recommended procedures is likely to be required. This may result in a less accurate measurement of hearing.

Acoustics — Audiometric test methods —

Part 1:
Pure-tone air and bone conduction audiometry

1 Scope

This part of ISO 8253 specifies procedures and requirements for pure-tone air conduction and bone conduction threshold audiometry. For screening purposes, only pure-tone air conduction audiometric test methods are specified. It is possible that the procedures are not appropriate for special populations, e.g. very young children.

This part of ISO 8253 does not cover audiometric procedures to be carried out at levels above the hearing threshold levels of the subjects.

Procedures and requirements for speech audiometry, electrophysiological audiometry, and where loudspeakers are used as a sound source are not specified.

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

ISO 389-3:1994, *Acoustics — Reference zero for the calibration of audiometric equipment — Part 3: Reference equivalent threshold force levels for pure tones and bone vibrators*

ISO 389-5, *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 389-8, *Acoustics — Reference zero for the calibration of audiometric equipment — Part 8: Reference equivalent threshold sound pressure levels for pure tones and circumaural earphones*

IEC 60645-1:2001, *Electroacoustics — Audiological equipment — Part 1: Pure-tone audiometers*

IEC 61260, *Electroacoustics — Octave-band and fractional-octave-band filters*

IEC 61672-1, *Electroacoustics — Sound level meters — Part 1: Specifications*

ISO/IEC Guide 98-3, *Uncertainty of measurement — Part 3: Guide to the expression of uncertainty in measurement* (*GUM:1995*)