SLOVENSKI STANDARD
SIST EN ISO 7029:2017

01-maj-2017

Nadomešča:
SIST EN ISO 7029:2001

Akustika - Statistična porazdelitev praga slišnosti v odvisnosti od starosti in spola (ISO 7029:2017)

Acoustics - Statistical distribution of hearing thresholds related to age and gender (ISO 7029:2017)

Acoustique - Distribution statistique des seuils d'audition en fonction de l'âge et du sexe (ISO 7029:2017)

Ta slovenski standard je istoveten z: **EN ISO 7029:2017**

ICS:

13.140	Vpliv hrupa na ljudi	Noise with respect to human beings
17.140.99	Drugi standardi v zvezi z akustiko	Other standards related to acoustics

SIST EN ISO 7029:2017 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 7029

January 2017

ICS 13.140

Supersedes EN ISO 7029:2000

English Version

Acoustics - Statistical distribution of hearing thresholds related to age and gender (ISO 7029:2017)

Acoustique - Distribution statistique des seuils d'audition en fonction de l'âge et du sexe (ISO 7029:2017)

This European Standard was approved by CEN on 14 January 2017.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN ISO 7029:2017) 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 DIN.

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of an identical text or by endorsement, at the latest by July 2017, and conflicting national standards shall be withdrawn at the latest by July 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 7029:2000.

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Endorsement notice

The text of ISO 7029:2017 has been approved by CEN as EN ISO 7029:2017 without any modification.

INTERNATIONAL STANDARD

ISO 7029

Third edition
2017-01

Acoustics — Statistical distribution of hearing thresholds related to age and gender

Acoustique — Distribution statistique des seuils d'audition en fonction de l'âge et du sexe

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 43, *Acoustics*.

This third edition cancels and replaces the second edition (ISO 7029:2000), which has been technically revised with the following changes:

— new data has been adopted, as explained in the introduction;

— estimation accuracy of expected medians and statistical distributions of hearing thresholds were generally improved by modifying the formulae used;

— the age range for which the expected medians and statistical distributions of hearing thresholds are calculable was extended to the age of 80 years at audiometric frequencies of 2 000 Hz and below; it was up to 70 years for all frequencies in the previous editions.

Introduction

The sensitivity of human hearing is well known to decrease with age and the impairment of hearing develops more rapidly for sound at high frequencies than at low frequencies. Moreover, the magnitude of this effect varies considerably among individuals.

When testing the hearing of persons markedly over 18 years of age, part of any observed hearing loss will probably be associated with age. It is important to be aware of this when estimating the amount of hearing loss attributable to other causes under investigation.

It should be noted that a decrease in hearing ability may not necessarily be caused by ageing itself, but by many injurious influences during lifetime, which are not known in detail.

This document is based on a thorough examination of literature data on the differences between groups having different ages for populations of otologically normal persons as defined herein. Distinction is made between males and females since the difference is found to be of significance in the case of older age groups. The data have been derived from investigations using pure tones transmitted to the ear from an earphone, but no evidence is known that disqualifies their use for noise band stimuli.

This document is a revision of the second edition (ISO 7029:2000). The expected medians and statistical distributions of hearing thresholds were re-estimated using audiometric data published after the establishment of the first edition (ISO 7029:1984). All the data on which the second edition had been based were discarded. Thus, this third edition describes the hearing sensitivity profile of people in recent years.

Hearing thresholds presented in this document are generally lower at high frequencies than those in the previous editions of this document. The 4 kHz dip observed in males has become negligibly small. The source data of the previous editions might not have been screened rigorously in terms of hearing abnormalities. Problems related to instrumentation might also have affected measurement data.

The expected median hearing thresholds at the frequencies from 9 000 Hz to 12 500 Hz are presented for information. Audiometry at those frequencies is executable using an extended high-frequency audiometer.

