

Ergonomics - Accessible design - Sound pressure levels of auditory signals for consumer products (ISO 24501:2010)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 24501:2011 sisaldab Euroopa standardi EN ISO 24501:2010 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 31.01.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 15.12.2010.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 24501:2011 consists of the English text of the European standard EN ISO 24501:2010.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 31.01.2011 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 15.12.2010.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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ICS 11.180.15, 13.180

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ICS 13.180; 11.180.15

English Version

Ergonomics - Accessible design - Sound pressure levels of auditory signals for consumer products (ISO 24501:2010)

Ergonomie - Conception accessible - Niveaux de pression acoustique des signaux auditifs pour produits de consommation courante (ISO 24501:2010)

Ergonomie - Zugängliche Gestaltung - Schalldruckpegel von akustischen Signalen für Konsumgüter (ISO 24501:2010)

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Foreword

This document (EN ISO 24501:2010) has been prepared by Technical Committee ISO/TC 159 "Ergonomics" in collaboration with Technical Committee CEN/TC 122 "Ergonomics" 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of an identical text or by endorsement, at the latest by June 2011, and conflicting national standards shall be withdrawn at the latest by June 2011.

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Endorsement notice

The text of ISO 24501:2010 has been approved by CEN as a EN ISO 24501:2010 without any modification.

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Introduction

People conduct their daily lives surrounded by various consumer products. Consumer products, as defined in ISO 20282-1, include home electrical appliances, information and telecommunication products, gas-heating equipment, toys, sanitary equipment, and health-care products, many of which use auditory signals. These auditory signals can be indistinct because of the hearing loss which occurs with ageing or because of interfering sounds in the surroundings. Also, with age, our visual ability declines gradually. Auditory signals with an appropriate sound level can assist product users with auditory or visual impairment in using the product correctly and safely.

This International Standard specifies methods for determining an appropriate sound level range of auditory signals, so that all product users, including people with age-related hearing loss, can hear them properly against interfering sounds. This sound level range specification was determined, based on results of experiments in which people of all ages participated. Auditory signals whose sound pressure level is in that range are expected to be audible and comfortably loud for most users in the presence of interfering sounds.

This International Standard should be applied as appropriate to products, depending on the product type and its conditions of use. It does not apply to machines and equipment used for professional work.

This International Standard adopts the principles of accessible design given in ISO/IEC Guide 71 and amplified in ISO/TR 22411.

Ergonomics — Accessible design — Sound pressure levels of auditory signals for consumer products

1 Scope

This International Standard specifies methods for determining the sound pressure level range of auditory signals so that the users of consumer products, including people with age-related hearing loss, can hear the signal properly in the presence of interfering sounds.

Auditory signals, in this International Standard, refer to sounds with a fixed frequency (also called beep sounds) and do not include variable frequency sounds, melodic sounds, or voice guides.

This International Standard is applicable to auditory signals which are heard at an approximate maximum distance of 4 m from the product, as long as no physical barrier exists between the product and the user. It is not applicable to auditory signals heard through a head receiver or earphones, or to those heard with the ear located very near to the sound source because of the interference of the head with sound propagation.

This International Standard does not specify the sound pressure level of auditory signals regulated by other statutes, such as those for fire alarms, gas leakages and crime prevention, nor does it specify auditory signals particular to a communication tool such as telephones.

This International Standard does not specify auditory danger signals for public or work areas which are covered in ISO 7731, ISO 8201, and ISO 11429.

2 Normative references

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

ISO 24500:2010, *Ergonomics — Accessible design — Auditory signals for consumer products*

IEC 60050-801, *International electrotechnical vocabulary — Chapter 801: Acoustics and electroacoustics*

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

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 24500 and IEC 60050-801 and the following apply.

3.1

product actuation sound

sound generated by actuation of the consumer product which incorporates the auditory signal to be designed

EXAMPLE A cooling-fan noise.