This document is a preview generated by EVS

Acoustics - Measurement and parametric description of spatial sound distribution curves in workrooms for evaluation of their acoustical performance

Acoustics - Measurement and parametric description of spatial sound distribution curves in workrooms for evaluation of their acoustical performance

EESTI STANDARDIKESKUS

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN ISO 14257:2002 sisaldab Euroopa standardi EN ISO 14257:2001 ingliskeelset teksti. Käesolev dokument on jõustatud 19.04.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 14257:2002 consists of the English text of the European standard EN ISO 14257:2001. This document is endorsed on 19.04.2002 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This standard specifies a method for measuring the spatial sound distribution curve(s) of a given workroom. A method is given for determining, from the measured data, two descriptors of the acoustical performance of a workroom, i.e. the excess of sound pressure level with respect to a free field and the sound pressure level decay per distance doubling.	**Scope:** This standard specifies a method for measuring the spatial sound distribution curve(s) of a given workroom. A method is given for determining, from the measured data, two descriptors of the acoustical performance of a workroom, i.e. the excess of sound pressure level with respect to a free field and the sound pressure level decay per distance doubling.

ICS 13.140

Võtmesõnad: ergonomic, human factors engineering, machine noise, measurement, measuring techniques, noise emissions, noise reduction, operating stations, sound propagation, specification (approval), specifications, work spaces, working places, workroom

The document is a preview generated by EVS

Eesti Standardikeskusele kuulub standardite reprodutseerimis- ja levitamisõigus

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 14257

October 2001

ICS 13.140

This document is a preview generated by EVS

English version

Acoustics - Measurement and parametric description of spatial sound distribution curves in workrooms for evaluation of their acoustical performance (ISO 14257:2001)

Acoustique - Mesurage et description paramétrique des courbes de décroissance sonore spatiale dans les locaux de travail en vue de l'évaluation de leur performance acoustique (ISO 14257:2001)

Akustik - Messung und Parametrisierung von Schallausbreitungskurven in Arbeiträumen zum Zweck der Beurteilung der akustischen Qualität der Räume (ISO 14257:2001)

This European Standard was approved by CEN on 5 October 2001.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

© 2001 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No. EN ISO 14257:2001 E

CORRECTED 2001-12-12

Foreword

The text of the International Standard ISO 14257:2001 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 April 2002, and conflicting national standards shall be withdrawn at the latest by April 2002.

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

Endorsement notice

The text of the International Standard ISO 14257:2001 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

This document is a preview generated by EVS

Annex ZA (normative)
Normative references to international publications with their relevant European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE Where an International Publication has been modified by common modifications, indicated by (mod.), the relevant EN/HD applies.

Publication	Year	Title	EN	Year
ISO 3741	1999	Acoustics - Determination of sound power levels of noise sources using sound pressure - Precision methods for reverberation rooms	EN ISO 3741	1999
ISO 3744	1994	Acoustics - Determination of sound power levels of noise sources using sound pressure - Engineering method in an essentially free field over a reflecting plane	EN ISO 3744	1995
ISO 6926	2000	Acoustics - Requirements for the performance and calibration of reference sound sources used for the determination of sound power levels	EN ISO 6926	2001

This document is a preview generated by EVS

INTERNATIONAL STANDARD

ISO 14257

First edition
2001-10-15

Acoustics — Measurement and parametric description of spatial sound distribution curves in workrooms for evaluation of their acoustical performance

Acoustique — Mesurage et description paramétrique des courbes de décroissance sonore spatiale dans les locaux de travail en vue de l'évaluation de leur performance acoustique

This document is a preview generated by EVS

Reference number
ISO 14257:2001(E)

© ISO 2001

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

This document is a preview generated by EVS

© ISO 2001

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

Printed in Switzerland

© ISO 2001 – All rights reserved

Contents

Page

This document is a preview generated by EVS

© ISO 2001 – All rights reserved

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 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 14257 was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*.

Annexes A and B form a normative part of this International Standard. Annex C is for information only.

This document is a preview generated by EVS

© ISO 2001 – All rights reserved

Introduction

According to ISO 11690-1, the spatial sound distribution in a workroom is described by a curve characterizing the sound pressure level from a point source with a known sound power level, and with steady emission and omnidirectional sound radiation as a function of the distance from the source. This International Standard specifies a method for the determination of that spatial sound distribution curve, and for the derivation of two characteristics (rate of spatial decay of sound pressure levels per distance doubling and excess of sound pressure level) for the room in question.

Data obtained using this International Standard are of use for the following:

— acoustical qualification of a room with respect to noise control;

— determination of appropriate positions of a machine and of work stations in a room;

— assessment of the necessity to increase the sound absorption in the room;

— qualitative estimation of the potential performance of screens installed in the room;

— calculation of the noise-immission levels to be expected when machines with known emission are operated at specified positions in the room.

This document is a preview generated by EVS

© ISO 2001 – All rights reserved

This document is a preview generated by EVS

Acoustics — Measurement and parametric description of spatial sound distribution curves in workrooms for evaluation of their acoustical performance

This document is a preview generated by EVS

1 Scope

This International Standard specifies a method for measuring the spatial sound distribution curve(s) of a given workroom. A method is given for determining, from the measured data, two descriptors of the acoustical performance of a workroom regarding noise control: i.e. the excess of sound pressure level with respect to a free field, and the sound pressure level decay per distance doubling.

This International Standard does not deal with assessment of the acoustical quality with respect to speech communication or other psychological factors.

This International Standard is applicable to workrooms of any shape and any dimensions provided that the number of microphone positions allows the regression calculation to be performed.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 3741, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Precision methods for reverberation rooms*

ISO 3744:1994, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Engineering method in an essentially free field over a reflecting plane*

ISO 3745, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Precision methods for anechoïc and semi-anechoic rooms*

ISO 6926, *Acoustics — Requirements for the performance and calibration of reference sound sources used for the determination of sound power levels*

IEC 60651, *Sound level meters*

IEC 60804, *Integrating-averaging sound level meters*

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

3 Terms and definitions

For the purposes of this International Standard, the following terms and definitions apply.

© ISO 2001 – All rights reserved