SLOVENSKI STANDARD
SIST EN ISO 4869-4:2001

01-september-2001

Akustika - Oprema za varovanje sluha - 4. del: Merjenje efektivnih ravni zvoļ nega tlaka za varovalne nauġnike glede na razred zaġļ ite (ISO/TR 4869-4:1998)

Acoustics - Hearing protectors - Part 4: Measurement of effective sound pressure levels for level-dependent sound-restoration ear-muffs (ISO/TR 4869-4:1998)

Akustik - Gehörschützer - Teil 4: Messung der wirksamen Schalldruckpegel von Kapselgehörschützern mit pegelabhängiger elektroakustischer Übertragungseinrichtung (ISO/TR 4869-4:1998)

Acoustique - Protecteurs individuels contre le bruit - Partie 4: Mesurage des niveaux effectifs de pression acoustique des serre-tetes destinés a la restitution du son (ISO/TR 4869-4:1998)

Ta slovenski standard je istoveten z: **EN ISO 4869-4:2000**

ICS:

13.340.20 Varovalna oprema za glavo Head protective equipment

SIST EN ISO 4869-4:2001 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 4869-4

May 2000

ICS 13.340.20

English version

Acoustics - Hearing protectors - Part 4: Measurement of effective sound pressure levels for level-dependent sound-restoration ear-muffs (ISO/TR 4869-4:1998)

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This European Standard was approved by CEN on 10 April 2000.

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 Central Secretariat 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 Central Secretariat 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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN ISO 4869-4:2000 E

Foreword

The text of the International Standard from Technical Committee ISO/TC 43 "Acoustics" of the International Organization for Standardization (ISO) has been taken over as an European Standard by 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 November 2000, and conflicting national standards shall be withdrawn at the latest by November 2000.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

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 4869-4:1998 has been approved by CEN as a European Standard without any modification.

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

TECHNICAL REPORT

ISO/TR 4869-4

First edition
1998-10-01

Acoustics — Hearing protectors —

Part 4:
Measurement of effective sound pressure levels for level-dependent sound-restoration ear-muffs

Acoustique — Protecteurs individuels contre le bruit —

Partie 4: Mesurage des niveaux effectifs de pression acoustique des serre-tête destinés à la restitution du son

Reference number
ISO 4869-4:1998(E)

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.

The main task of technical committees is to prepare International Standards, but in exceptional circumstances a technical committee may propose the publication of a Technical Report of one of the following types:

— type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;

— type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;

— type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

ISO/TR 4869-4, which is a Technical Report of type 2, was prepared by Technical Committe ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*.

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A first CD 4869-4, doc. 43/1 N 924, based on a miniature microphone technique, was circulated for comments in the period 1994-06-30/1994-09-30. The comments, given in doc. 43/1 N 948, showed that such a draft could not be expected to obtain sufficient support. WG 17 then prepared a completely revised draft based on a simplified procedure and using an artificial test fixture (ATF) which was circulated as a second CD, doc. 43/1 N 972, in the period 1995-01-01/1995-03-10.

The comments given in doc. 43/1 N 985, showed that the second CD 4869-4 did not have major support either. WG 17 therefore prepared a revised document, still based on the ATF but with the scope restricted to sound restoration ear-muffs which was circulated as a Draft Technical Report, doc. 43/1 N 986, in the period 1995-10-10/1996-01-10. The votes and comments, given in doc. 43/1 N 1039, showed 16 approvals and 4 disapprovals.

Based on these comments, WG 17 prepared a second draft Technical Report 4869-4, doc. 43/1 N 1069, which was circulated for voting in the period 1997-05-15/1997-08-20 and approved with 15 approvals and 2 disapprovals as given in doc. 43/1 N 1148. The two disapprovals were requesting a technique based on the use of miniature microphones which cannot be incorporated in the present document. Thus, the second TR, with some editorial amendments, is issued as a Technical Report, and the question of the preparation of a possible standard based on a miniature microphone technique must be the subject of a separate discussion and decision in ISO/TC 43/SC 1.

ISO 4869-4 consists of the following parts, under the general title *Acoustics — Hearing protectors*:

— *Part 1: Subjective method for the measurement of sound attenuation*

— *Part 2: Estimation of effective A-weighted sound pressure levels when hearing protectors are worn*

— *Part 3: Simplified method for the measurement of insertion loss of ear-muff type protectors for quality inspection purposes*

— *Part 4: Measurement of effective sound pressure levels for level-dependent sound-restoration ear-muffs*

Annex A of this part of ISO 4869 is for information only.

Introduction

Measurement of sound attenuation according to ISO 4869-1 is intended for conventional, passive hearing protectors where the attenuation is independent of the level of the noise outside the hearing protector. Hearing protectors with level-dependent operation are also available. Such operation is usually obtained by means of electro-acoustic components. The level-dependent characteristics of such protectors cannot be determined using the procedures of ISO 4869-1. The present technical report provides a physical method for the determination of the characteristics of level-dependent sound restoration ear-muffs. The passive sound attenuation characteristics of sound restoration ear-muffs should be measured in accordance with ISO 4869-1.