EESTI STANDARD EVS-EN 13819-2:2002

Kuulmiskaitsevahendid. Katsetamine. Osa 2: Akustilised katsemeetodid

Hearing protectors - Testing - Part 2: Acoustic test methods

EESTI STANDARDIKESKUS

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 13819-2:2002 sisaldab Euroopa standardi EN 13819-2:2002 ingliskeelset teksti. Käesolev dokument on jõustatud 13.12.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 13819-2:2002 consists of the English text of the European standard EN 13819-2:2002. This document is endorsed on 13.12.2002 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 European Standard EN 13819 specifies acoustic test methods for hearing protectors. The purpose of these tests is to enable assessment of the performance of the hearing protector as specified in the appropriate product standard	**Scope:** This European Standard EN 13819 specifies acoustic test methods for hearing protectors. The purpose of these tests is to enable assessment of the performance of the hearing protector as specified in the appropriate product standard

ICS 13.340.20

Võtmesõnad: ear muffs, ear protectors, ear-muff type wearing protectors, hearing protectors, inspection, occupational safety, properties, protective clothing, protective equipment, safety requirements, specification (approval), specifications, testing, workplace safety

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Hearing protectors - Testing - Part 2: Acoustic test methods

Protecteurs individuels contre le bruit - Essais - Partie 2: Méthodes d'essai acoustique

Gehörschützer - Prüfung - Teil 2: Akustische Prüfverfahren

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

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Foreword

This document (EN 13819-2:2002) has been prepared by Technical Committee CEN/TC 159, "Hearing protectors", the secretariat of which is held by SIS.

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of an identical text or by endorsement, at the latest by May 2003, and conflicting national standards shall be withdrawn at the latest by May 2003.

This document 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).

For relationship with EU Directives, see informative Annex ZA, which is an integral part of this standard.

In this European Standard the Annex A is informative.

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, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

This standard for ”Hearing Protectors Testing : Part 2 - Acoustic test methods”, specifies procedures for the testing of personal hearing protection devices in relation to Directive 89/686/EEC - Personal Protective Equipment.

EN 352-1 deals with requirements for ear-muffs, EN 352-2 with ear-plugs, EN 352-3 with ear-muffs attached to industrial safety helmets. EN 13819 deals with testing plans common to all types of hearing protectors and consists of two Parts:

Part 1: Physical test methods

Part 2: Acoustic test methods.

Additional safety requirements and the associated test procedures for level-dependent ear-muffs are contained in EN 352-4, for ear-muffs with active noise reduction in EN 352-5, for ear-muffs with audio communications in EN 352-6 and for level-dependent ear-plugs in EN 352-7.

An associated standard EN 458, covers selection, use, care and maintenance of hearing protectors.

This standard is intended as a supplement to the specific product standards for hearing protectors.

The performance requirements are given in the hearing protector product standard.

If deviations from the procedures specified in this standard are necessary, these deviations are specified in the hearing protection product standard.

4.1 specifies a method of measuring the insertion loss of ear-muffs using an acoustic test fixture.

4.2 specifies a method of measuring the sound attenuation of hearing protectors using human test subjects.

4.3 specifies a method of sound immission measurement carried out with miniature microphones inserted in the ear canals of human test subjects. The technique is known as the microphone in real ear technique (MIRE technique).

1 Scope

This European Standard EN 13819-2 specifies acoustic test methods for hearing protectors. The purpose of these tests is to enable assessment of the performance of the hearing protector as specified in the appropriate product standard.

2 Normative references

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).

EN 24869-1*, Acoustics - Hearing protectors - Part 1: Subjective method for the measurement of sound attenuation (ISO 4869-1:1990)*

EN 24869-3*, Acoustics - Hearing protectors - Part 3: Simplified method for the measurement of insertion loss of ear-muff type protectors for quality inspection purposes (ISO/TR 4869-3:1989)*

EN ISO 4869-2*, Acoustics - Hearing protectors - Part 2: Estimation of effective A- weighted sound pressure levels when hearing protectors are worn (ISO 4869-2:1994)*

EN ISO 11904-1:2002*, Acoustics - Determination of sound immissions from sound sources placed close to the ears - Part 1: Technique using a microphone in a real ear (MIRE-technique)(ISO 11904-1:2002)*

3 Terms and definitions

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

3.1
acoustic test fixture (ATF)
device that approximates certain dimensions of an average adult human head and is used for measuring the insertion loss of ear-muffs, as defined in EN 24869-3

3.2
insertion loss
mean algebraic difference in decibels between the one-third octave band sound pressure level, measured by the microphone of the acoustic test fixture in a specified sound field under specified conditions, with the hearing protector absent, and the sound pressure level with the hearing protector on, with other conditions identical

3.3
sound attenuation
for a given test signal, the mean difference in decibels between the threshold of hearing with and without the hearing protector in place, for a panel of test subjects

4 Test methods

4.1 Insertion loss (ear-muffs only)

4.1.1 Principle

The insertion loss of each cup of the ear-muffs is measured at specified one-third octave band centre frequencies.