

Kuulmiskaitsevahendid. Ohutusnõuded ja katsetamine. Osa 5: Aktiivsed müravähendavad kõrvakaitsed

Hearing protectors - Safety requirements and testing
- Part 5: Active noise reduction ear-muffs

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 352-5:2003 sisaldab Euroopa standardi EN 352-5:2002 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.02.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 352-5:2003 consists of the English text of the European standard EN 352-5:2002.</p> <p>This document is endorsed on 18.02.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: This European Standard is concerned with active noise reduction (ANR) ear-muffs. It specifies additional constructional, design and performance requirements, methods of test, marking requirements and user information relating to the incorporation of the active noise reduction facility</p>	<p>Scope: This European Standard is concerned with active noise reduction (ANR) ear-muffs. It specifies additional constructional, design and performance requirements, methods of test, marking requirements and user information relating to the incorporation of the active noise reduction facility</p>
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ICS 13.340.20

Võtmesõnad: acoustic properties, dimensions, hearing protectors, level, properties, protective clothing, protective equipment, quantity, safety, safety engineering, safety requirements, size, specification (approval), specifications, testing, user information, workplace safety

ICS 13.340.20

English version

Hearing protectors - Safety requirements and testing - Part 5: Active noise reduction ear-muffs

Protecteurs individuels contre le bruit - Exigences de
sécurité et essais - Partie 5: Serre-tête à atténuation active
du bruit

Gehörschützer - Sicherheitstechnische Anforderungen und
Prüfungen - Teil 5: Kapselgehörschützer mit aktiver
Geräuschkompensation

This European Standard was approved by CEN on 16 October 2002.

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Foreword

This document (EN 352-5:2002) 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 June 2003, and conflicting national standards shall be withdrawn at the latest by June 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 standard the annexes A and B are 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 – Safety requirements and testing – Part 5: Active noise reduction ear-muffs", 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 13819-1 and EN 13819-2 deal with testing plans common to all types of hearing protectors covered by this series of ENs.

Additional safety requirements and the associated test procedures for level-dependent ear-muffs are contained in EN 352-4, for ear-muffs with electrical audio input in prEN 352-6 and for level-dependent ear-plugs in prEN 352-7. An associated standard EN 458, covers selection, use, care and maintenance of hearing protection.

The particular requirement for hearing protectors in relation to their ability to reduce noise to below daily limit levels set by Directive 86/188/EEC - "on the protection of workers from the risks related to exposure to noise at work" is addressed in the standard by means of a requirement to report the active component of attenuation provided by the ear-muffs, to complement the passive attenuation data reported within EN 352-1.

An additional acoustic performance test method to that described in EN 24869-1 and applied in EN 352-1, EN 352-2 and EN 352-3 is required for active noise reduction ear-muffs. Until such time as this work is completed the test method described in Annex B of this standard is recommended for active noise reduction ear-muffs in addition to the EN 24869-1 test.

Active noise reduction ear-muffs are designed to provide additional attenuation of external sounds by means of a noise cancellation circuit. This additional attenuation is usually provided at low and mid frequencies. They may be selected for use in low frequency dominated high noise environments.

This part of the standard is a specification intended for type approval purposes, for which four sets of specimen ear-muffs are tested (further samples may be required for testing under EN 352-1, or EN 352-3, as appropriate).

The requirements and tests of the standard are concerned primarily with the active noise reduction performance of the ear-muffs. The standard may be applied to ear-muffs for fitting to industrial safety helmets.

1 Scope

This European Standard is concerned with active noise reduction (ANR) ear-muffs. It specifies additional constructional, design and performance requirements, methods of test, marking requirements and user information relating to the incorporation of the active noise reduction facility.

The requirements of this standard are intended to take account of the ergonomic interaction between the wearer, the device and, where possible, the working environment in which the device is likely to be used (see Annex ZA of this standard and EN 458)

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 352-1:2002, *Hearing protectors - General requirements - Part 1: Ear-muffs*

EN 352-3:2002, *Hearing protectors – General requirements – Part 3: Ear-muffs attached to an industrial safety helmet*

EN 13819-1, *Hearing protectors - Testing - Part 1: Physical test methods*

3 Terms and definitions

For the purposes of this European Standard the following additional terms and definitions to those of EN 352-1:2002 (or EN 352-3:2002, as appropriate) apply:

3.1

active mode

operation of the ANR ear-muff with the ANR circuit switched on.

3.2

passive mode

operation of the ANR ear-muff with the ANR circuit switched off.

4 Requirements

4.1 General

Active noise reduction ear-muffs shall meet the requirements of EN 352-1 (or EN 352-3, as appropriate). Additional requirements are listed below.

4.2 Materials and construction

The electronic circuit of the ANR ear-muff shall meet the electrical safety and EMC requirements appropriate to this class of equipment.

4.3 Performance

4.3.1 General

Active noise reduction ear-muffs shall meet all the performance requirements of EN 352-1 (or EN 352-3, as appropriate), including the minimum attenuation requirement in their passive mode. Additionally, the requirements specified in 4.3.2, 4.3.3 and 4.3.4 shall be satisfied.

Specimens of ear-muffs shall be conditioned and tested as specified in 5.1.1 and 5.1.2. The scheme of testing shall be as specified in 5.1.3.

4.3.2 Active attenuation

The sound output levels of the four test samples shall be measured in accordance with 5.2 and reported in wearer information (6.1).