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KUULMISKAITSEVAHENDID. OHUTUSNÕUDED. OSA 4: HELITASEME FILTRIGA KÕRVAKLAPID

Hearing protectors - Safety requirements - Part 4: Level-dependent earmuffs

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NATIONAL FOREWORD

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See Eesti standard EVS-EN 352-4:2020 sisaldab Euroopa standardi EN 352-4:2020 ingliskeelset teksti.	This Estonian standard EVS-EN 352-4:2020 consists of the English text of the European standard EN 352-4:2020.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 18.11.2020.	Date of Availability of the European standard is 18.11.2020.
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ICS 13.340.20

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 352-4

November 2020

ICS 13.340.20

Supersedes EN 352-4:2001

English Version

Hearing protectors - Safety requirements - Part 4: Level-dependent earmuffs

Protecteurs individuels contre le bruit - Exigences de sécurité et essais - Partie 4 : Serre-tête à atténuation dépendante du niveau

Gehörschützer - Sicherheitstechnische Anforderungen und Prüfungen - Teil 4: Pegelabhängige Kapselgehörschützer

This European Standard was approved by CEN on 18 June 2018.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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European foreword

This document (EN 352-4:2020) has been prepared by Technical Committee CEN/TC 159 “Hearing protectors”, 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of an identical text or by endorsement, at the latest by May 2021, and conflicting national standards shall be withdrawn at the latest by November 2023.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 352-4:2001, EN 352-4:2001/A1:2005.

This document has been prepared under a standardization request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Regulation(s).

For relationship with EU Regulation(s), see informative Annex ZA, which is an integral part of this document.

In comparison with the previous edition, the following technical modifications have been made:

Clause/Paragraph/Table/Figure	Change
Clause 4	new requirements on criterion levels added
Clause 5	removed, reference to EN 13819-3:2019, 7.2.2 added
Annex A	removed
Annex B	removed, reference to EN 13819-3:2019, 7.2.2 added
NOTE 1 The technical changes referred to include the significant technical changes from the EN revised but is not an exhaustive list of all modifications from the previous edition. NOTE 2 The modifications include previously issued guidance documents according to Article 24 §11 in the EU Regulation (EU) 2016/425 on personal protective equipment. No changes have been made to minimum safety requirements. The modifications do not affect the state of art of the product requirements for these products.	

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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Introduction

The requirements of the standard are concerned with the level-dependent performance of the earmuffs. The criterion levels within this standard are determined to limit the sound pressure level effective to the ear to 85 dB(A).

EN 352-4 is part of a family of standards describing product requirements:

— EN 352-1, *Hearing protectors — General requirements — Part 1: Earmuffs*

— EN 352-2, *Hearing protectors — General requirements — Part 2: Earplugs*

— EN 352-3, *Hearing protectors — General requirements — Part 3: Earmuffs attached to head protection and/or face protection devices*

— EN 352-4, *Hearing protectors — Safety requirements — Part 4: Level-dependent earmuffs*

— EN 352-5, *Hearing protectors — Safety requirements — Part 5: Active noise reduction earmuffs*

— EN 352-6, *Hearing protectors — Safety requirements — Part 6: Earmuffs with safety-related audio input*

— EN 352-7, *Hearing protectors — Safety requirements — Part 7: Level-dependent earplugs*

— EN 352-8, *Hearing protectors — Safety requirements — Part 8: Entertainment audio earmuffs*

— EN 352-9, *Hearing protectors — Safety requirements — Part 9: Earplugs with safety-related audio input*

— EN 352-10, *Hearing protectors — Safety requirements — Part 10: Entertainment audio earplugs*

Test methods for these requirements are described in the following standards:

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

— EN 13819-2, *Hearing protectors — Testing — Part 2: Acoustic test methods*

— EN 13819-3, *Hearing protectors — Testing — Part 3: Supplementary acoustic test methods*

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

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1 Scope

This document is applicable to level-dependent earmuffs. It specifies requirements on construction, design, performance, marking and user information related to the inclusion of the level-dependent functionality.

Level-dependent earmuffs are designed to provide restoration of external sounds, while providing attenuation of sounds at high levels. They may be selected for use in intermittent or impulsive noise environments and where external warning sounds are required to be heard. This document is concerned with those earmuffs having an electronic sound restoration circuit.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 352-1:2020, *Hearing protectors - General requirements - Part 1: Earmuffs*

EN 352-3:2020, *Hearing protectors - General requirements - Part 3: Earmuffs attached to head protection and/or face protection devices*

EN 13819-3:2019, *Hearing protectors — Testing — Part 3: Supplementary acoustic test methods*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 352-1:2020, EN 352-3:2020 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
level-dependent earmuff
earmuff fitted with an electronic sound restoration circuit

3.2
sound restoration circuit
electroacoustic device intended to reproduce lower level external sounds in the ear canal, and to restrict reproduction of higher level sounds by means of a level-dependent gain function

3.3
criterion level (H)
A-weighted sound pressure level of the H noise for which the A-weighted equivalent diffuse-field related sound pressure level, when a level-dependent earmuff is worn and the sound restoration circuit is operating at maximum volume, first exceeds 85 dB(A)

3.4
criterion level (M)
A-weighted sound pressure level of the M noise for which the A-weighted equivalent diffuse-field related sound pressure level, when a level-dependent earmuff is worn and the sound restoration circuit is operating at maximum volume, first exceeds 85 dB(A)

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