



SLOVENSKI STANDARD

SIST EN 352-4:2021

01-april-2021

Nadomešča:

SIST EN 352-4:2001

SIST EN 352-4:2001/A1:2006

Varovala sluha - Varnostne zahteve - 4. del: Naušniki, prilagodljivi ravni hrupa

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

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

(standards.iteh.ai)

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

<https://standards.iteh.ai/catalog/standards/sist/bfdce39-c1b5-4c03-a70c-6066aaf57fe/sist-en-352-4-2021>

Ta slovenski standard je istoveten z: EN 352-4:2020

ICS:

13.340.20 Varovalna oprema za glavo Head protective equipment

SIST EN 352-4:2021

en,fr,de

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 352-4:2021

<https://standards.iteh.ai/catalog/standards/sist/bfdce39-c1b5-4c03-a70c-6066aaf57fe/sist-en-352-4-2021>

EUROPEAN STANDARD

EN 352-4

NORME EUROPÉENNE

EUROPÄISCHE NORM

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.

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

CEN members are the national standards bodies of 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 United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword.....	3
Introduction	4
1 Scope.....	5
2 Normative references.....	5
3 Terms and definitions	5
4 Requirements	6
4.1 General.....	6
4.2 Performance	6
4.2.1 Criterion levels.....	6
4.2.2 Criterion levels for products intended for use in impulse-type noise situations only	6
4.2.3 Criterion levels for products not intended for use in impulse-type noise situations only	6
5 Marking.....	6
6 Manufacturer's instructions and information.....	7
Annex ZA (informative) Relationship between this European Standard and the essential requirements of Regulation (EU) 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment aimed to be covered.....	8
Bibliography.....	9

<https://standards.iteh.ai/catalog/standards/sist/bfdce39-c1b5-4c03-a70c-6066aaf57fe/sist-en-352-4-2021>

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.

EN 352-4:2020 (E)**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.

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)

EN 352-4:2020 (E)**3.5****criterion level (L)**

A-weighted sound pressure level of the L 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)

3.6**impulse-type noise**

noise characterized by short duration high-level peaks

4 Requirements**4.1 General**

Level-dependent earmuffs shall meet the requirements of EN 352-1:2020 (or EN 352-3:2020, as appropriate) and the requirements listed in 4.2.

4.2 Performance**4.2.1 Criterion levels**

The criterion levels for the three noises H, M and L shall be determined in accordance with test procedures as specified in EN 13819-3:2019, 7.2.2.

4.2.2 Criterion levels for products intended for use in impulse-type noise situations only

Products that are intended for use in impulse-type noise situations only shall meet the requirements:

- minimum criterion level (H) = 85 dB(A);
- minimum criterion level (M) = 85 dB(A);
- minimum criterion level (L) = 85 dB(A).

4.2.3 Criterion levels for products not intended for use in impulse-type noise situations only

Products that are not intended for use in impulse-type noise situations only shall meet the following requirements:

- minimum criterion level (H) = 97 dB(A);
- minimum criterion level (M) = 96 dB(A);
- minimum criterion level (L) = 94 dB(A).

If there is no difference between the criterion level (L) when the level-dependent function is on and off, the requirement minimum criterion level (L) does not apply.

5 Marking

The marking specified in EN 352-1:2020 (or EN 352-3:2020, as appropriate) shall be used. No additional marking is needed.

6 Manufacturer's instructions and information

The information specified in EN 352-1:2020 (or EN 352-3:2020 as appropriate) and the following additional information shall be supplied with the earmuffs:

- a) a reference to this document EN 352-4:2020;
- b) an indication that the hearing protector provides a level-dependent functionality;
- c) the values of the criterion levels as determined by the procedures described in EN 13819-3:2019;
- d) a method for checking, charging and changing batteries;
- e) statements that include the following information:
 - 1) The earmuff is provided with level-dependent attenuation. The user should check correct operation before use. If distortion or failure is detected, the user should refer to the manufacturer's advice for maintenance.
 - 2) A warning that the performance may deteriorate with battery usage and the typical period of continuous use that can be expected from the earmuff batteries, when fully charged.
- f) in case that the product does not fulfil the criterion requirements in 4.2.3 but fulfils the requirements of 4.2.2 a warning that the product is not suited for high continuous noise levels.

ITeH STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 352-4:2021](https://standards.iteh.ai/catalog/standards/sist/bfddce39-c1b5-4c03-a70c-6066aaf57fe/sist-en-352-4-2021)

<https://standards.iteh.ai/catalog/standards/sist/bfddce39-c1b5-4c03-a70c-6066aaf57fe/sist-en-352-4-2021>

Annex ZA (informative)

Relationship between this European Standard and the essential requirements of Regulation (EU) 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment aimed to be covered

This European Standard has been prepared under a Commission's standardization request to provide one voluntary means of conforming to essential requirements of Regulation (EU) 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment.

Once this standard is cited in the Official Journal of the European Union under that Regulation (EU) 2016/425, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Regulation (EU) 2016/425 and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard and Regulation (EU) 2016/425

Essential Requirements of Regulation (EU) 2016/425	Clause(s)/subclause(s) of this EN	Remarks/Notes
1.1.1 Ergonomics	4.1	by reference to EN 352-1:2020 (or EN 352-3:2020)
1.2.1.3 Maximum permissible user impediment	4	https://standards.iteh.ai/catalog/standards/sist/bfdce39-c1b5-4c03-a70c-6066aa2857fe/sist-en-352-4-2021
1.4 Manufacturer's instructions and information	6	
3.5 Protection against the harmful effects of noise	4	This standard should be used in conjunction with EN 352-1:2020 (or EN 352-3:2020, as appropriate), which covers other Essential Requirements of Regulation (EU) 2016/425 that are also applicable to the products specified in the scope of this standard.

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.