



SLOVENSKI STANDARD SIST EN 352-5:2021

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SIST EN 352-5:2003

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Varovala sluha - Varnostne zahteve - 5. del: Naušniki za znižanje ravni hrupa

Hearing protectors - Safety requirements - Part 5: Active noise reduction earmuffs

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

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Protecteurs individuels contre le bruit - Exigences de sécurité et essais - Partie 5 : Serre-tête à atténuation active du bruit [SIST EN 352-5:2021](#)

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Ta slovenski standard je istoveten z: EN 352-5:2020

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13.340.20 Varovalna oprema za glavo Head protective equipment

SIST EN 352-5:2021

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EUROPEAN STANDARD

EN 352-5

NORME EUROPÉENNE

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November 2020

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Supersedes EN 352-5:2002

English Version

Hearing protectors - Safety requirements - Part 5: Active noise reduction earmuffs

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 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

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European foreword

This document (EN 352-5:2020) 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 352-5:2002, EN 352-5:2002/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 3	a definition for active noise reduction earmuff, ANR earmuff added.
Clause 5	removed, reference to EN 13819-3:2019, 7.3 added
Annex A	removed
Annex B	removed, reference to EN 13819-3:2019, 7.3 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 352-5:2020 (E)**Introduction**

The requirements of the standard are concerned with the active noise reduction performance of the earmuffs.

EN 352-5 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 active noise reduction (ANR) earmuffs. It specifies requirements on construction, design, performance, marking and user information related to the inclusion of the active noise reduction facility.

Active noise reduction earmuffs 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.

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 European Standard 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

active noise reduction earmuff

ANR earmuff

earmuff that provides additional attenuation of external sounds by means of a noise cancellation circuit

3.2

active mode

operation mode of the ANR earmuff with the ANR circuit switched on

3.3

passive mode

operation mode of the ANR earmuff with the ANR circuit switched off

4 Requirements

4.1 General

Active noise reduction earmuffs shall meet the requirements of EN 352-1:2020 (or EN 352-3:2020, as appropriate) and the requirements listed in 4.2. The total attenuation shall meet the minimum attenuation requirements in EN 352-1:2020, 4.3.12 (or EN 352-3:2020, as appropriate).

EN 352-5:2020 (E)**4.2 Performance****4.2.1 Total attenuation**

The total attenuation shall be measured as specified in EN 13819-3:2019, 7.3 and reported in the user information.

4.2.2 Maximum sound pressure level for linear ANR operation in active mode

The maximum sound pressure level for linear operation of the ANR circuit shall be determined as specified in EN 13819-3:2019, 7.3.2.1 and reported in the user information.

4.2.3 Oscillation and acoustic malfunction

When tested as specified in EN 13819-3:2019, 7.3 there shall be no sustained oscillation or acoustic malfunction (whistling or instability) when the earmuff has been fitted in accordance with the manufacturer's instructions.

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 standard EN 352-5:2020;
- b) an indication that the hearing protector provides an active noise reduction facility;
- c) the mean, standard deviation and calculated APV for each test frequency for the total attenuation together with the derived HML and SNR values as specified in EN 13819-3:2019, 7.3.2;
- d) the highest level of the external test noise for which the ANR circuit is operating correctly;
- e) a method for checking, charging and changing batteries;

- f) statements that include the following information:
- 1) The earmuff is provided with active noise reduction. 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 protective performance may deteriorate with battery usage and the typical period of continuous use that can be expected from the earmuff batteries, when fully charged.
 - 3) A warning that the performance of the active noise reduction earmuffs may be adversely affected when sustained oscillation (whistling or instability) is perceived. If refitting the earmuffs or replacement of the batteries does not overcome this malfunction, the user should contact the supplier or manufacturer.

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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)
1.1.2.1 Optimum level of protection	4.2	https://standards.iteh.ai/catalog/standards/sist/58a0b6f0-d47a-42a5-a745-b80ff4508245/sist-en-352-5-2021
1.2.1.3 Maximum permissible user impediment	4	
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3.5 Protection against the harmful effects of noise	4.2	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.