



**SLOVENSKI STANDARD**  
**oSIST prEN 352-8:2017**  
**01-september-2017**

---

**Varovala sluha - Varnostne zahteve in preskušanje - 8. del: Naušniki za razvedrilni zvočni signal**

Hearing protectors - Safety requirements and testing - Part 8: Entertainment audio earmuffs

Gehörschützer - Sicherheitstechnische Anforderungen und Prüfungen - Teil 8: Audiokapselgehörschützer für Unterhaltungszwecke

Protecteurs individuels contre le bruit - Exigences de sécurité et essais - Partie 8 : Serre-tête audio de divertissement

[SIST EN 352-8:2021](https://standards.iteh.ai/catalog/standards/sist/a10d4862-caad-4870-a2ea-2a8bae711c91/sist-en-352-8-2021)

[https://standards.iteh.ai/catalog/standards/sist/a10d4862-caad-4870-a2ea-](https://standards.iteh.ai/catalog/standards/sist/a10d4862-caad-4870-a2ea-2a8bae711c91/sist-en-352-8-2021)

[2a8bae711c91/sist-en-352-8-2021](https://standards.iteh.ai/catalog/standards/sist/a10d4862-caad-4870-a2ea-2a8bae711c91/sist-en-352-8-2021)

**Ta slovenski standard je istoveten z: prEN 352-8**

---

**ICS:**

13.340.20      Varovalna oprema za glavo      Head protective equipment

**oSIST prEN 352-8:2017**

**en,fr,de**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN 352-8:2021](#)

<https://standards.iteh.ai/catalog/standards/sist/a10d4862-caad-4870-a2ea-2a8bae711c91/sist-en-352-8-2021>

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**prEN 352-8**

June 2017

ICS 13.340.20

Will supersede EN 352-8:2008

English Version

## Hearing protectors - Safety requirements and testing - Part 8: Entertainment audio ear-muffs

Protecteurs individuels contre le bruit - Exigences de  
sécurité et essais - Partie 8 : Serre-tête audio de  
divertissement

Gehörschützer - Sicherheitstechnische Anforderungen  
und Prüfungen - Teil 8: Audiokapselgehörschützer für  
Unterhaltungszwecke

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 159.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

**Warning** : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

| <b>Contents</b>                                                                                                                                                                                                                                       | <b>Page</b> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| European foreword.....                                                                                                                                                                                                                                | 3           |
| Introduction .....                                                                                                                                                                                                                                    | 4           |
| 1 Scope.....                                                                                                                                                                                                                                          | 5           |
| 2 Normative references.....                                                                                                                                                                                                                           | 5           |
| 3 Terms and definitions .....                                                                                                                                                                                                                         | 5           |
| 4 Requirements .....                                                                                                                                                                                                                                  | 5           |
| 4.1 General.....                                                                                                                                                                                                                                      | 5           |
| 4.2 Performance .....                                                                                                                                                                                                                                 | 5           |
| 4.2.1 Maximum sound pressure levels generated by entertainment audio .....                                                                                                                                                                            | 5           |
| 5 Marking.....                                                                                                                                                                                                                                        | 6           |
| 6 Information supplied by the manufacturer.....                                                                                                                                                                                                       | 6           |
| 6.1 User Information.....                                                                                                                                                                                                                             | 6           |
| 6.2 Additional 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           |

SIST EN 352-8:2021

<https://standards.iteh.ai/catalog/standards/sist/a10d4862-caad-4870-a2ea-2a8bae711c91/sist-en-352-8-2021>

## European foreword

This document (prEN 352-8:2017) has been prepared by Technical Committee CEN/TC 159 “Hearing protectors”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 352-8:2008.

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 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                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| 4.2.1                                                                                                                                                                              | Products with Bluetooth added                           |
| 4.2.1.3                                                                                                                                                                            | Products with electrical audio input: new requirements  |
| Clause 5                                                                                                                                                                           | removed, reference to prEN 13819-3:2016, Clause 7 added |
| Annex ZA                                                                                                                                                                           | Topic added                                             |
| NOTE 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. |                                                         |

## Introduction

Entertainment audio earmuffs are designed to provide not only sound attenuation to ambient sound but also to provide entertainment audio via built-in loudspeakers. The entertainment audio signal can be transmitted by radio (broadcast or local plant programmes) or by wire or other communication like Bluetooth. The audio signal transmission is for entertainment and not for safety or work-related purposes. Thus the sound pressure level effective to the ear which is generated by the entertainment audio equipment of the ear-muff has to be limited. This limitation is to be tested and reported at full volume setting. The sound pressure level limit for the reproduced sound of the audio entertainment is set to 82 dB(A).

The requirements of the standard are concerned primarily with the entertainment audio performance of the ear-muffs.

EN 352-8 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 and testing — Part 4: Level-dependent earmuffs*
- EN 352-5, *Hearing protectors — Safety requirements and testing — Part 5: Active noise reduction earmuffs*
- EN 352-6, *Hearing protectors — Safety requirements and testing — Part 6: Earmuffs with safety-related audio input*
- EN 352-7, *Hearing protectors — Safety requirements and testing — Part 7: Level-dependent earplugs*
- EN 352-8, *Hearing protectors — Safety requirements and testing — Part 8: Entertainment audio earmuffs*
- prEN 352-9, *Hearing protectors — Safety requirements and testing — Part 9: Earplugs with safety-related audio input*
- prEN 352-10, *Hearing protectors — Safety requirements and testing — Part 10: Earplugs with entertainment audio input*

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*
- prEN 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 European Standard is applicable to entertainment audio ear-muffs. It specifies requirements on construction, design, performance, marking and user information relating to the inclusion of the entertainment audio facility.

## 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, *Hearing protectors — General requirements — Part 1: Ear-Muffs*

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

prEN 13819-3:2016, *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, EN 352-3 and the following apply.

### 3.1

#### **entertainment audio ear-muffs**

ear-muffs additionally providing reproduced sound for entertainment purposes

Note 1 to entry: They may be designed with an electrical audio input, with built-in broadcast receivers or with other built-in wireless receivers like Bluetooth. Or they may be part of a complete system composed of transmitters and receiving audio earmuffs.

### 3.2

#### **sound output level**

A-weighted diffuse-field related sound pressure level produced by the entertainment audio facility of an ear-muff for a given input signal

## 4 Requirements

### 4.1 General

Entertainment audio earmuffs shall meet the requirements of EN 352-1 (or EN 352-3, as appropriate) and the requirements listed in 4.2.

### 4.2 Performance

#### 4.2.1 Maximum sound pressure levels generated by entertainment audio

##### 4.2.1.1 General

The sound output levels of the test samples shall be tested in accordance with the appropriate procedure from prEN 13819-3:2016 (7.3, 7.4 or 7.5) and reported in the test report. The mean value of 16 measurements plus one standard deviation shall not exceed 82 dB(A). In cases where a manufacturer has designed left and right cups in a different way (especially in terms of sound pressure level effective to the ear), neither the mean value of 8 measurements of left cups plus one standard

**prEN 352-8:2017 (E)**

deviation nor the mean value of 8 measurements of right cups plus one standard deviation shall exceed 82 dB(A).

**4.2.1.2 Earmuffs with built-in broadcast receivers for FM radio**

The procedure from prEN 13819-3:2016, 7.3.1 shall be used. The sound output levels are determined for the FM radio signal defined in prEN 13819-3:2016, 7.3.1.1 with one specific signal level.

**4.2.1.3 Entertainment audio ear-muffs with an electrical audio input**

The procedure from prEN 13819-3:2016, 7.5.1.2, Part 3 shall be used. The sound output levels shall be measured up to 150 mV or up to the maximum input voltage as specified by the manufacturer (whichever is larger).

NOTE 1 This requirement corresponds to the maximum output voltage of a personal music player of 150 mV according to EN 60065 if the test signal from EN 50332-1 is applied.

NOTE 2 EN 50332-1 and EN 50332-2 contain the test procedures for the maximum sound pressure levels of personal music players.

**4.2.1.4 Entertainment audio earmuffs with built-in Bluetooth receivers**

The procedure from prEN 13819-3:2016, 7.4.1.1, Part 3 shall be used. The sound output levels are determined for the Bluetooth signal defined in prEN 13819-3:2016, 7.4.1.1.

**4.2.1.5 Complete systems composed of transmitters and entertainment audio earmuffs**

The transmitting, receiving and amplifying devices shall be adjusted to maximum setting.

**5 Marking**

There are no requirements for marking in addition to what is given in EN 352-1 or EN 352-3.

**6 Information supplied by the manufacturer****6.1 User Information**

The following information for the user (in addition to that required by EN 352-1 or EN 352-3) shall be supplied with the ear-muffs:

- a) number of this standard, EN 352-8;
- b) an indication that the earmuff provides an entertainment audio facility;
- c) for products without electrical audio input, a statement that the earmuff provides audio signal sound pressure level limitation and that the earmuff limits the entertainment audio signal to 82 dB(A) effective to the ear;
- d) for products with electrical audio input, a statement up to which value of input voltage (150 mV or a voltage specified by the manufacturer, whichever is larger) the product limits the entertainment audio signal to 82 dB(A) effective to the ear;
- e) a warning that the product shall not to be used if it can't be ensured that the input voltage doesn't exceed the maximum value stated above;
- f) a method of checking, charging and changing batteries if applicable;



- g) a statement that the audibility of warning signals at a specific workplace may be impaired while using the entertainment facility.

## 6.2 Additional information

The following information shall be available from the manufacturer on request.

- a) results of tests performed in accordance with this standard;
- b) the name and country of the test laboratory which performed the tests specified and the date of the tests.

## iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 352-8:2021](https://standards.iteh.ai/catalog/standards/sist/a10d4862-caad-4870-a2ea-2a8bae711c91/sist-en-352-8-2021)

<https://standards.iteh.ai/catalog/standards/sist/a10d4862-caad-4870-a2ea-2a8bae711c91/sist-en-352-8-2021>