

KUULMISKAITSEVAHENDID. ÜLDNÕUDED. OSA 2:  
KÕRVATROPID

Hearing protectors - General requirements - Part 2:  
Earplugs

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 352-2:2020 sisaldab Euroopa standardi EN 352-2:2020 ingliskeelset teksti.	This Estonian standard EVS-EN 352-2:2020 consists of the English text of the European standard EN 352-2:2020.
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.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

ICS 13.340.20

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:  
Koduleht [www.evs.ee](http://www.evs.ee); telefon 605 5050; e-post [info@evs.ee](mailto:info@evs.ee)

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage [www.evs.ee](http://www.evs.ee); phone +372 605 5050; e-mail [info@evs.ee](mailto:info@evs.ee)

EUROPEAN STANDARD

**EN 352-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2020

ICS 13.340.20

Supersedes EN 352-2:2002

English Version

## Hearing protectors - General requirements - Part 2: Earplugs

Protecteurs individuels contre le bruit - Exigences  
générales - Partie 2 : Bouchons d'oreille

Gehörschützer - Allgemeine Anforderungen - Teil 2:  
Gehörschutzstöpsel

This European Standard was approved by CEN on 24 February 2020.

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.....	6
2 Normative references.....	6
3 Terms, definitions, symbols and abbreviations.....	6
3.1 Terms and definitions .....	6
3.2 Symbols and abbreviations .....	8
4 Requirements.....	8
4.1 Sizing and adjustability.....	8
4.1.1 Aural earplugs.....	8
4.1.2 Banded earplugs.....	8
4.2 Materials and construction.....	9
4.2.1 Materials.....	9
4.2.2 Construction.....	9
4.3 Performance .....	9
4.3.1 General.....	9
4.3.2 Resistance to damage when dropped.....	10
4.3.3 Resistance to damage when dropped at low temperature (optional).....	10
4.3.4 Cleaning.....	10
4.3.5 Ignitability.....	10
4.3.6 Minimum sound attenuation .....	10
5 Marking.....	10
6 User information .....	11
6.1 General.....	11
6.2 Information on the packaging.....	11
6.3 Instructions supplied with the earplugs.....	11
Annex A (informative) Technical changes between this document and the previous edition of this European Standard .....	14
Annex ZA (informative) Relationship between this European Standard and the essential requirements of Regulation (EU) 2016/425 aimed to be covered.....	16
Bibliography.....	18

## European foreword

This document (EN 352-2:2020) 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 352-2:2002.

The technical changes between this document and the previous edition of this European Standard are listed in Annex A.

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.

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.

## Introduction

This document sets requirements for personal hearing protection devices in relation to Regulation (EU) 2016/425 on personal protective equipment.

The particular requirement in relation to the ability of hearing protectors to reduce noise below limit levels is addressed in the standard by requiring the sound attenuation of the hearing protectors, measured in accordance with EN ISO 4869-1, to be not less than a specified minimum. Further, by requiring that the measured sound attenuation be declared, the selection of suitable hearing protectors for individual circumstances can be undertaken according to established practice.

EN 352-2 is part of a family of standards describing product requirements for hearing protectors:

- 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 for all types of hearing protectors 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.

The parts of EN 352, other than parts 1, 2 and 3, cover the performance of functions additional to passive hearing protection. Hearing protectors which incorporate one or more of these functions are subject to the requirements and tests of each of the relevant parts of EN 352-4 to -10, in addition to that of parts 1, 2 or 3, as appropriate.

The requirements of this document are concerned primarily with the physical and acoustic performance of the earplugs. It covers disposable, re-usable, custom moulded and banded earplugs.

In order to assist users to select the correct size(s) of earplugs, a nominal diameter, or range of diameters, of the earplugs is required to be declared (except for custom moulded and semi-aural earplugs).

In the case of banded earplugs, the standard specifies sizing requirements which enable the majority of the user population to be fitted satisfactorily by “medium size range” earplugs. Individuals with other sizes can be accommodated by “small size range” or “large size range” earplugs, which are required to be accompanied by information regarding the range of sizes which they are designed to fit.

The standard also calls for the values of sound attenuation provided by the earplugs (measured in accordance with EN ISO 4869-1) in order to assist users in selecting the most appropriate model of earplugs for their needs. Minimum values of sound attenuation are also specified.

This document is a preview generated by EVS

## 1 Scope

This document specifies requirements on construction, design, performance, marking and user information for earplugs.

In particular, it specifies requirements regarding the sound attenuation of the earplugs, measured in accordance with EN ISO 4869-1:2018.

This document applies to earplugs designed for users who are able to follow supplied instructions and understand the related risks, can fit the earplugs correctly and can give feedback on the performance.

Ergonomic aspects are addressed by taking into account, within the requirements, the interaction between the user, the device and where possible the working environment in which the device is likely to be used (see Annex ZA and EN 458).

## 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 13819-1:2020, *Hearing protectors — Testing — Part 1: Physical test methods*

EN 13819-2:2020, *Hearing protectors — Testing — Part 2: Acoustic test methods*

EN ISO 4869-2:2018, *Acoustics — Hearing protectors — Part 2: Estimation of effective A-weighted sound pressure levels when hearing protectors are worn (ISO 4869-2:2018)*

## 3 Terms, definitions, symbols and abbreviations

### 3.1 Terms and definitions

For the purposes of this document, the following terms and definitions 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>

#### 3.1.1

##### **passive hearing protection**

hearing protection that provides attenuation of external sounds not by means of electronics

Note 1 to entry: All hearing protectors have the characteristics of reducing noise by their design and type of material used. Devices that have only this function are called passive hearing protection.

[SOURCE: EN 352-1:2020, 3.1.1]