

KUULMISKAITSEVAHENDID. OHUTUSNÕUDED. OSA 9:  
OHUTUSALASE AUDIOSIDEGA KÕRVATROPID

Hearing protectors - Safety requirements - Part 9:  
Earplugs with safety-related audio input

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 352-9:2020 sisaldab Euroopa standardi EN 352-9:2020 ingliskeelset teksti.	This Estonian standard EVS-EN 352-9:2020 consists of the English text of the European standard EN 352-9:2020.
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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English Version

## Hearing protectors - Safety requirements - Part 9: Earplugs with safety-related audio input

Protecteurs individuels contre le bruit - Exigences de sécurité et essais - Partie 9: Bouchons d'oreilles avec entrée audio-électrique

Gehörschützer - Sicherheitstechnische Anforderungen und Prüfungen - Teil 9: Gehörschutzstöpsel mit elektrischem Audioeingang

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

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## European foreword

This document (EN 352-9:2020) 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of an identical text or by endorsement, at the latest by May 2021 and conflicting national standards shall be withdrawn at the latest by November 2023.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 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, Republic of Macedonia, 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

The requirements of this standard are concerned with the safety-related audio input performance of the earplugs. Sound output levels and criterion input signals are reported in the user information.

EN 352-9 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 earplugs supplemented by a safety-related audio input. The audio signal can be transmitted by electrical input or other communication like Bluetooth<sup>1</sup>. It specifies requirements on construction, design, performance, marking and user information related to the inclusion of the safety-related audio input.

Earplugs with safety-related audio input are designed to provide speech information and warning signals, while providing attenuation of external sound. They may be selected for use in a number of different environments, for example in air traffic communication, in the police forces, in the broadcasting and entertainment industries.

## 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 352-2:2020, *Hearing protectors - General requirements - Part 2: Earplugs*

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 352-2:2020 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

#### **earplugs with safety-related audio input**

earplugs including an electrical audio input facility or circuit for safety-related communication

### 3.2

#### **sound output level**

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

### 3.3

#### **criterion input signal**

mean input signal minus one standard deviation for which the sound output level is equal to 82 dB(A)

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<sup>1</sup> (Bluetooth® is the trademark of a product supplied by Bluetooth® SIG. This information is given for the convenience of users of this European Standard and does not constitute an endorsement by CEN of the product named. Equivalent products may be used if they can be shown to lead to the same results.)