

Kuulmiskaitsevahendid. Üldnõuded. Osa 2: Kõrvatropid

Hearing protectors - General requirements - Part 2:
Ear-plugs

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 352-2:2003 sisaldab Euroopa standardi EN 352-2:2002 ingliskeelset teksti.	This Estonian standard EVS-EN 352-2:2003 consists of the English text of the European standard EN 352-2:2002.
Käesolev dokument on jõustatud 18.02.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.	This document is endorsed on 18.02.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

Käsitlusala: This part of the standard specifies constructional, design and performance requirements, marking requirements and user information for ear-plugs	Scope: This part of the standard specifies constructional, design and performance requirements, marking requirements and user information for ear-plugs
---	---

ICS 13.340.20

Võtmesõnad: dimensions, hearing protectors, inspection, marking, materials, occupational safety, properties, protective clothing, protective equipment, safety, safety engineering, safety requirements, size, specification (approval), specifications, testing, workplace safety

English version

Hearing protectors - General requirements - Part 2: Ear-plugs

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

Gehörschützer - Allgemeine Anforderungen - Teil 2:
Gehörschutzstöpsel

This European Standard was approved by CEN on 18 August 2002.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

	page
Foreword	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Requirements	6
4.1 Sizing and adjustability.....	6
4.2 Materials and construction	7
4.3 Performance.....	7
5 Marking	8
6 Information supplied by the manufacturer	8
6.1 General.....	8
6.2 Wearer information.....	9
6.3 Additional information.....	10
Annex A (informative) Uncertainty of measurement and interpretation of test results	11
Annex ZA (informative) Clauses of this European standard addressing essential requirements or other provisions of EU Directives	13
Bibliography	14

Foreword

This document (EN 352-2:2002) has been prepared by Technical Committee CEN/TC 159, "Hearing protectors", the secretariat of which is held by SIS.

[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 April 2003, and conflicting national standards shall be withdrawn at the latest by April 2003.

This document supersedes EN 352-2:1993.

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 Directive(s).

For relationship with EU Directive(s), see informative annex ZA, which is an integral part of this document.

Annex A is informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

This standard for "Hearing Protectors - General requirements - Ear-plugs", sets requirements for personal hearing protection devices in relation to Directive 89/686/EEC - Personal Protective Equipment.

The particular requirement in relation to the ability of hearing protectors to reduce noise below daily limit levels is addressed in the standard by requiring the sound attenuation of the hearing protectors, measured in accordance with EN 24869-1, 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 may be undertaken according to established practice.

EN 352-1 deals with requirements for ear-muffs, EN 352-2 with ear-plugs, EN 352-3 with ear-muffs attached to industrial safety helmets. EN 13819 deals with testing plans common to all types of hearing protectors covered by this series of prENs, and is in two Parts; Part 1 : Physical test methods, and Part 2 : Acoustic test methods.

Additional safety requirements and the associated test procedures for level-dependent ear-muffs are contained in EN 352-4, for ear-muffs with active noise reduction in prEN 352-5, for ear-muffs with audio communications in prEN 352-6 and for level-dependent ear-plugs in prEN 352-7.

The Parts of prEN 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 prEN 352, including Parts 1, 2 or 3, as appropriate.

An associated standard EN 458, covers selection, use, care and maintenance of hearing protectors.

The requirements of EN 352-2 are concerned primarily with the physical and acoustic performance of the ear-plugs. It covers disposable, re-usable, custom moulded and headband ear-plugs.

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

In the case of headband ear-plugs, the standard specifies sizing requirements which enable the great majority of the industrial population to be fitted satisfactorily by "medium size range" ear-plugs. Populations of other sizes may be accommodated by "small size range" or "large size range" ear-plugs, 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 afforded by the ear-plugs (measured in accordance with EN 24869-1) in order to assist purchasers in selecting the most appropriate model of ear-plugs for their needs. Minimum values of sound attenuation are also specified.

1 Scope

This part of the standard specifies constructional, design and performance requirements, marking requirements and user information for ear-plugs.

In particular, it specifies the sound attenuation of the ear-plugs, measured in accordance with EN 24869-1.

Ergonomic aspects are addressed by taking into account, within the requirements, the interaction between the wearer, 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

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 13819-1:2002, *Hearing protectors - Testing - Part 1: Physical test methods*

EN 13819-2:2002, *Hearing protectors - Testing - Part 2 : Acoustic test methods*

EN ISO 4869-2, *Acoustics - Hearing protectors - Part 2: Estimation of effective A-weighted sound pressure levels when hearing protectors are worn (ISO 4869-2:1994)*

3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply:

3.1

ear-plugs

hearing protector worn within each of the external ear canals (aural) or in the concha, against the entrance to each of the external ear canals (semi-aural)

3.1.1

disposable ear-plugs

ear-plugs intended for one fitting only

3.1.2

re-usable ear-plugs

ear-plugs intended for more than one fitting

3.1.3

formable ear-plugs

ear-plugs which require some degree of manipulation before fitting

3.1.4

pre-formed ear-plugs

ear-plugs which require no manipulation before fitting

3.1.5

custom moulded ear-plugs

ear-plugs made using an impression of the individual concha and the external ear canal of the user

NOTE These are usually of the re-usable type.