# Kuulmiskaitsevahendid. Ohutusnõuded ja katsetamine. Osa 7: (Müra) tasemest sõltuvad kõrvatropid

Hearing protectors - Safety requirements and testing - Part 7: Level-dependent ear-plugs



# **EESTI STANDARDI EESSÕNA**

# **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 352-
7:2003 sisaldab Euroopa standardi EN
352-7:2002 ingliskeelset teksti.

Käesolev dokument on jõustatud 18.02.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 352-7:2003 consists of the English text of the European standard EN 352-7:2002.

This document is endorsed on 18.02.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.

The standard is available from Estonian standardisation organisation.

### Käsitlusala:

This European Standard is concerned with level-dependent ear-plugs. It specifies additional constructional, design and performance requirements, methods of test, marking requirements and user information relating to the incorporation of the level-dependency facility

# Scope:

This European Standard is concerned with level-dependent ear-plugs. It specifies additional constructional, design and performance requirements, methods of test, marking requirements and user information relating to the incorporation of the level-dependency facility

**ICS** 13.340.20

**Võtmesõnad:** acoustic properties, dimensions, hearing protectors, level, prope, protective clothing, protective equipment, quantity, safety, safety engineering, safety requirements, size, specification (approval), specifications, testing, user information, workplace safety

# EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

EN 352-7

December 2002

ICS 13.340.20

# **English version**

# Hearing protectors - Safety requirements and testing - Part 7: Level-dependent ear-plugs

Protecteurs individuels contre le bruit - Exigences de sécurité et essais - Partie 7. Bouchons d'oreilles à atténuation dépendante du niveau Gehörschützer - Sicherheitstechnische Anforderungen und Prüfungen - Teil 7: Pegelabhängig dämmende Gehörschutzstöpsel

This European Standard was approved by CEN on 16 October 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.



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# **Foreword**

This document (EN 352-7:2002) 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 June 2003, and conflicting national standards shall be withdrawn at the latest by June 2003.

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 Directives, see informative Annex ZA, which is an integral part of this standard.

In this standard the annexes A and B are 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, a Ita, 1. October 19 Control of the France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## Introduction

This standard for "Hearing Protectors – Safety requirements and testing – Part 7: Level-dependent ear-plugs", specifies procedures for the testing of personal hearing protection devices in relation to Directive 89/686/EEC - Personal Protective Equipment.

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 13819-1 and EN 13819-2 deal with testing plans common to all types of hearing protectors covered by this series of ENs.

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 EN 352-5 and for ear-muffs with electrical audio input facility in EN 352-6. An associated standard EN 458, covers selection, use, care and maintenance of hearing protection.

The particular requirement for hearing protectors in relation to their ability to reduce noise to below daily limit levels set by Directive 86/188/EEC - "on the protection of workers from the risks related to exposure to noise at work" is addressed in the standard by means of a requirement to report in which noise environments the hearing protector may be used without exceeding the relevant action level set by that Directive.

The test method for hearing protector attenuation described in EN 24869-1 and applied in Parts 1, 2 and 3 is not sufficient for level-dependent ear-plugs. Additional methods of measurement, for the purposes of determining the sound delivered to the wearer's ear from the sound restoration circuit, are under consideration. Until such time as this work is completed, the test method described in Annex B of this standard is recommended for level-dependent ear-plugs, in addition to the EN 24869-1 test.

Level-dependent ear-plugs are designed to provide restoration of external sounds, while providing attenuation of sounds at high levels. They may be selected for use in intermittent or impulsive noise environments and where external warning sounds are required to be heard. This standard is concerned with those ear-plugs having an electronic sound restoration circuit.

This part of the standard is a specification intended for type approval purposes, for which 4 sets of specimen ear-plugs are tested, (further samples may be required for testing under EN 352-2).

The requirements and tests of the standard are concerned primarily with the level-dependent performance of the ear-plugs.

# 1 Scope

This European Standard is concerned with ear-plugs fitted with an electronic level-dependent sound restoration function. It specifies additional constructional, design and performance requirements, methods of test, marking requirements and user information relating to the incorporation of the level-dependency facility. The performance of the ear-plug in impulsive noise is not addressed.

The requirements of this standard are intended to take account of the ergonomic interaction between the wearer, the device and, where possible, the working environment in which the device is likely to be used (see Annex ZA of this standard 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 352-2:2002, Hearing protectors - General requirements - Part 2: Ear-plugs

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