SLOVENSKI STANDARD
SIST EN 60118-7:2002

01-september-2002

Hearing aids - Part 7: Measurement of the performance characteristics of hearing aids for quality inspection for delivery purposes (IEC 60118-7:1983)

Hearing aids -- Part 7: Measurement of the performance characteristics of hearing aids for quality inspection for delivery purposes

Hörgeräte -- Teil 7: Messung der Eigenschaften von Hörgeräten für die Qualitätskontrolle bei Lieferungen

Appareils de correction auditive -- Partie 7: Mesure des caractéristiques fonctionnelles des appareils de correction auditive pour un contrôle de qualité en vue d'une livraison

Ta slovenski standard je istoveten z: **EN 60118-7:1993**

ICS:

11.180.15	Pripomoļki za gluhe osebe in osebe z okvaro sluha	Aids for deaf and hearing impaired people

SIST EN 60118-7:2002 **en**

EUROPEAN STANDARD EN 60118-7

NORME EUROPEENNE

EUROPÄISCHE NORM January 1993

Supersedes HD 450.7 S1:1985

UDC 534.773.2:621.395.92:658.562

Descriptors: Hearing aids, measurement, electroacoustic, audiofrequency

ENGLISH VERSION

Hearing aids
Part 7: Measurement of performance characteristics of hearing aids for quality inspection for delivery purposes
(IEC 118-7:1983)

Appareils de correction auditive
Septième partie: Mesure des caractéristiques fonctionnelles des appareils de correction auditive pour un contrôle de qualité en vue d'une livraison
(CEI 118-7:1983)

Hörgeräte
Teil 7: Messung der Eigenschaften von Hörgeräten für die Qualitätskontrolle bei Lieferungen
(IEC 118-7:1983)

This European Standard was approved by CENELEC on 1992-12-09. CENELEC 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 Central Secretariat or to any CENELEC 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 CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B-1050 Brussels

FOREWORD

At the request of Technical Board, HD 450.7 S1:1985 (IEC 118-7:1983) was submitted to the CENELEC voting procedure for conversion into a European Standard.

The text of the International Standard was approved by CENELEC as EN 60118-7 on 9 December 1992.

The following dates were fixed:

- latest date of publication of an identical national standard	(dop)	1993-12-01
- latest date of withdrawal of conflicting national standards	(dow)	-

Annexes designated "normative" are part of the body of the standard. In this standard, annex ZA is normative.

ENDORSEMENT NOTICE

The text of the International Standard IEC 118-7:1983 was approved by CENELEC as a European Standard without any modification.

ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD WITH THE REFERENCES OF THE RELEVANT EUROPEAN PUBLICATIONS

When the international publication has been modified by CENELEC common modifications, indicated by (mod), the relevant EN/HD applies.

IEC Publication	Date	Title	EN/HD	Date
68	series	Basic environmental testing procedures	HD 323	series
118-0	1983	Hearing aids - Part 0: Measurement of electroacoustical characteristics	EN 60118-0	1993
118-1	1983	Part 1: Hearing aids with induction pick-up coil input	HD 450.1 S1	1984
118-2	1983	Part 2: Hearing aids with automatic gain control circuits	HD 450.2 S1	1984
126	1973	IEC reference coupler for the measurement of hearing aids using earphones coupled to the ear by means of ear inserts	HD 305 S1	1977

C E N E L E C
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Central Secretariat

CORRIGENDUM to EN 60118-7:1993

English version

Title page

Replace the German title by:

Hörgeräte
Teil 7: Messung der Übertragungseigenschaften von Hörgeräten zur Qualitätsprüfung bei Lieferung

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June 1993

NORME INTERNATIONALE
INTERNATIONAL STANDARD

CEI
IEC
118-7

Première édition
First edition
1983

Appareils de correction auditive

Septième partie:
Mesure des caractéristiques fonctionnelles des appareils de correction auditive pour un contrôle de qualité en vue d'une livraison

Hearing aids

Part 7:
Measurement of the performance characteristics of hearing aids for quality inspection for delivery purposes

Bureau Central de la Commission Electrotechnique Internationale 3, rue de Varembé Genève, Suisse

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE N

Pour prix, voir catalogue en vigueur
For price, see current catalogue

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HEARING AIDS

Part 7: Measurement of the performance characteristics of hearing aids for quality inspection for delivery purposes

FOREWORD

1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.

2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.

3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

PREFACE

This standard has been prepared by IEC Technical Committee No. 29: Electroacoustics.

A first draft was discussed at the meeting held in Sydney in 1980. As a result of this meeting, a draft, Document 29(Central Office)123, was submitted to the National Committees for approval under the Six Months' Rule in January 1981.

The National Committees of the following countries voted explicitly in favour of publication:

Australia	Japan
Austria	Korea (Republic of)
Belgium	Netherlands
Bulgaria	Norway
Czechoslovakia	Poland
Denmark	Romania
Egypt	South Africa (Republic of)
Germany	Spain
Hungary	Sweden
Israel	United Kingdom

HEARING AIDS

Part 7: Measurement of the performance characteristics of hearing aids for quality inspection for delivery purposes

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1. Scope

This standard gives recommendations for the measurement of the performance characteristics of air-conduction hearing aids of a particular model for the purpose of comparing measured properties with those specified by the manufacturer.

This standard does not relate to mechanical or environmental tests. It should not be used as the basis for the exchange of information about hearing aid characteristics in general, nor is it intended to be used as a basis for fitting hearing aids to individuals.

Note. — Terms such as "manufacturer" and "purchaser" are used in this standard. These terms may be understood, however, to refer to the supplier and recipient respectively in any arrangement for the supply of hearing aids in which the use of this standard is called for.

2. Object

2.1 The object of this standard is to describe practical reproducible methods for determining the compliance of a limited number of electroacoustical and electrical characteristics of delivered hearing aids with nominal performance data supplied by the manufacturer.

2.2 Though the number of measurements covered by this standard is limited, it is not intended that all measurements described herein shall be made in every case.

2.3 This standard does not specify any tolerances for hearing aid performance.

Such tolerances are subject to agreement between manufacturer and purchaser.

Note. — In the case of a custom-made in-the-ear aid, the data supplied by the manufacturer applies only to the particular hearing aid being delivered.

3. General conditions

3.1 All sound pressure levels specified are referred to 20 μPa. Sound pressure level will be abbreviated to SPL.

3.2 *Acoustic test method*

The acoustic test procedure is based on a method of measurement in which the sound pressure level at the sound entry of the hearing aid is kept constant. This is normally accomplished by the use of a pressure-calibrated control microphone.

This method is designated "constant entrance sound pressure method" or shortened "pressure method" throughout this standard.

The sound output from the hearing aid is coupled to the IEC reference coupler according to IEC Publication 126: IEC Reference Coupler for the Measurement of Hearing Aids Using Earphones Coupled to the Ear by Means of Ear Inserts.

Notes 1. — The test results may differ substantially from those obtained under free-field conditions, especially for body-worn types of hearing aids having the sound entry located on a surface of the outer housing the physical dimensions of which are comparable to the wavelength of the incident sound.

2. — For measuring the variation of acoustical parameters of hearing aids as a function of the direction of sound incidence, progressive wave conditions are required. Small acoustic test boxes in which progressive wave conditions are not present cannot be used for this purpose.

3. — For testing hearing aids with directional microphones, manufacturer and purchaser should use acoustic test boxes of the same make and type to secure identical measurement conditions. The results from such measurements may not represent the true directional characteristics of the hearing aid.

3.3 Reference is made to the following IEC publications:

Publication 68: Basic Environmental Testing Procedures.

Publication 118-0: Hearing Aids, Part 0: Measurement of Electroacoustical Characteristics.

Publication 118-1: Part 1: Hearing Aids with Induction Pick-up Coil Input.

Publication 118-2: Part 2: Hearing Aids with Automatic Gain Control Circuits.

Publication 126: IEC Reference Coupler for the Measurement of Hearing Aids Using Earphones Coupled to the Ear by Means of Ear Inserts.

3.4 *Reporting of data*

All data reported shall be clearly labelled: "Quality inspection method according to IEC Publication 118-7".

4. Explanation of terms

4.1 *Pressure method*

A method of measurement in which the input sound pressure level is controlled close to the sound entry of the hearing aid by a pressure calibrated control microphone, thus substantially eliminating diffraction effects from the hearing aid (see IEC Publication 118-0, Sub-clause 4.4).

4.2 *Reference test frequency*

The frequency at which the setting of the gain control is made in relation to $OSPL_{90}$ (Output Sound Pressure Level for an input sound pressure level of 90 dB) to obtain a reference test position of the gain control. The reference test frequency shall normally be 1 600 Hz. For certain hearing aids for which a higher reference test frequency is more appropriate (so-called high-tone hearing aids) 2 500 Hz shall be used. If 2 500 Hz is used this shall be clearly stated in the test report (see IEC Publication 118-0, Sub-clause 4.18).