

Acoustics — Hearing protectors —

Part 2: Estimation of effective A-weighted sound pressure levels when hearing protectors are worn

ICS 13.140; 13.340.20

National foreword

This British Standard is the UK implementation of EN ISO 4869-2:1995, incorporating corrigendum June 2007. It is identical with ISO 4869-2:1994, incorporating corrigendum September 2006.

The UK participation in its preparation was entrusted to Technical Committee EPC/1, Acoustics.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Board and comes into effect on 15 March 1995

© BSI 2007

ISBN 978 0 580 59311 6

Amendments issued since publication

Amd. No.	Date	Comments
8935	December 1995	Renumbers BS ISO 4869-2:1995 as BS EN ISO 4869-2:1995
17353 Corrigendum No. 1	28 September 2007	Correction to equation (2) and addition of note to Table 2

Descriptors: Acoustics, safety devices, hearing protectors, tests, performance tests, acoustic tests, determination, sound pressure, attenuation, rules of calculation

English version

Acoustics — Hearing protectors — Part 2: Estimation of effective A-weighted sound pressure levels when hearing protectors are worn

(ISO 4869-2:1994)

Acoustique — Protecteurs individuels contre le bruit — Partie 2: Estimation des niveaux de pression acoustique pondérés A en cas d'utilisation de protecteurs individuels contre le bruit
(ISO 4869-2:1994)

Akustik — Gehörschützer — Teil 2: Abschätzung der beim Tragen von Gehörschützern wirksamen A-bewerteten Schalldruckpegel
(ISO 4869-2:1994)

This European Standard was approved by CEN on 1995-04-27. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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

CEN

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

Central Secretariat: rue de Stassart 36, B-1050 Brussels

© 1995 All rights of reproduction and communication in any form and by any means reserved in all countries to CEN and its members

Foreword

The text of the International Standard from ISO/TC 43, Acoustics, of the International Organization for Standardization (ISO) has been taken over as a European Standard by the Technical Committee CEN/TC 211, Acoustics.

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 December 1995, and conflicting national standards shall be withdrawn at the latest by December 1995.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EC Directive(s).

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

INTERNATIONAL STANDARD

ISO
4869-2

First edition
1994-09-01

Acoustics — Hearing protectors —

Part 2:

Estimation of effective A-weighted sound pressure levels when hearing protectors are worn

Acoustique — Protecteurs individuels contre le bruit —

Partie 2: Estimation des niveaux de pression acoustique pondérés A en cas d'utilisation de protecteurs individuels contre le bruit



Reference number
ISO 4869-2:1994(E)

AVA Documents
Document Sharing Hub

Contents

	Page
Foreword	iii
Introduction	1
1 Scope	1
2 Normative references	2
3 Definitions	2
4 Measurement of sound attenuation of hearing protectors	3
5 Calculation of the assumed protection value, APV_{fx} , of a hearing protector for a selected protection performance	3
6 Octave-band method	3
7 HML method	4
8 SNR method	5
Annex A (informative) Example of the calculation of the assumed protection values, APV_{fx}	7
Annex B (informative) Example of the calculation of L'_{Ax} according to the octave-band method	7
Annex C (informative) Example of calculation and use of H, M and L values	7
Annex D (informative) Example of the calculation and use of SNR values	9
Annex E (informative) Bibliography	9
Table 1 — Values of α for various protection performances x	3
Table 2 — A-weighted octave-band sound pressure levels, $L_{Af(k)i}$, of eight reference noises normalized to an A-weighted sound pressure level of 100 dB, $(L_C - L_A)$ values and constants d_i	5
Table 3 — A-weighted octave-band sound pressure levels, $L_{Af(k)}$, of a pink noise which has a C-weighted sound pressure level of 100 dB	6
Table A.1 — Calculation of APV_{f80}	7
Table B.1 — Calculation of L'_{A80} using the octave-band method	7
Table C.1 — Calculation of the difference between $L_{Af(k)i}$ and APV_{f80}	8
Table D.1 — Calculation of the difference between $L_{Af(k)}$ and APV_{f80}	9

Descriptors: Acoustics, safety devices, hearing protectors, tests, performance tests, acoustic tests, determination, sound pressure, attenuation, rules of calculation.