

Sound attenuation of hearing protectors —

Part 1: Subjective method of measurement

The European Standard EN 24869-1:1992 has the status of a
British Standard

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Environment and Pollution Standards Policy Committee (EPC/-) to Technical Committee EPC/1, upon which the following bodies were represented:

- Association of Consulting Engineers
- British Broadcasting Corporation
- British Occupational Hygiene Society
- British Telecommunications plc
- Department of Health
- Department of the Environment (Building Research Establishment)
- Department of Trade and Industry (Air Division)
- Department of Trade and Industry (National Physical Laboratory)
- Engineering Equipment and Materials Users' Association
- Health and Safety Executive
- Incorporated Association of Architects and Surveyors
- Institute of Acoustics
- Institute of Occupational Hygienists
- Institute of Physics
- Institute of Sound and Vibration Research
- Institution of Civil Engineers
- Institution of Electrical Engineers
- Royal Institute of British Architects
- Society of Environmental Engineers
- Transmission and Distribution Association (BEAMA Ltd.)

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

- Electricity Supply Industry in UK
- Industrial Safety (Protective Equipment) Manufacturers' Association
- Institution of Mechanical Engineers
- Ministry of Defence
- Society of Hearing Aid Audiologists Ltd.
- University of Salford

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National foreword

This Part of BS 5108 has been prepared under the direction of the Environment and Pollution Standards Policy Committee. It is identical with ISO 4869-1:1990 “Acoustics — Hearing protectors — Part 1: Subjective method for the measurement of sound attenuation”, published by the International Organization for Standardization (ISO). ISO 4869-1 was prepared by Subcommittee 1, Noise, of ISO Technical Committee 43, Acoustics, with the active participation and approval of the UK. It constitutes a minor revision of ISO 4869:1981.

In 1992 the European Committee for Standardization (CEN) accepted ISO 4869-1:1990 as European Standard EN 24869-1:1992. As a consequence of implementing the European Standard this British Standard is renumbered as BS EN 24869-1 and any reference to BS 5108-1:1991 should be read as a reference to BS EN 24869-1.

This Part of BS 5108 is a revision of BS 5108:1983, which is withdrawn.

Further revised Parts of BS 5108 are in preparation. A second Part will be based on ISO 4869-2 “Estimated noise reduction of hearing protectors” and a third Part is envisaged, based on a future revision of ISO/TR 4869-3:1989 “Simplified method for the measurement of insertion loss of ear-muff type protectors for quality inspection purposes” which was implemented, dual-numbered as DD 192:1990.

Hearing protectors are commonly used to reduce the noise to which the ear is exposed. Hearing protectors are manufactured as ear-plugs, ear-muffs or helmets. A standardized method of sound attenuation measurement allows performance data obtained in different locations under similar conditions to be compared. The data may be used for rank ordering and selection of different models and the evaluation of design and construction features that affect performance.

Cross-references

International Standard	Corresponding British Standard
ISO 354:1985	BS 3638:1987 <i>Method for measurement of sound absorption in a reverberation room</i> (Identical)
ISO 389:1985	BS 2497 <i>Standard reference zero for the calibration of pure tone air conduction audiometers</i> Part 5:1988 <i>Specification for a standard reference zero using an acoustic coupler complying with BS 4688</i> (Identical)
ISO 5725:1986	BS 5497 <i>Precision of test methods</i> Part 1:1987 <i>Guide for the determination of repeatability and reproducibility for a standard test method by inter-laboratory tests</i> (Identical)
ISO 6189:1983	BS 6655:1986 <i>Specification for pure tone air conduction threshold audiometry for hearing conservation purposes</i> (Identical)
IEC 225:1966	BS 2475:1964 <i>Specification for octave and one-third octave band-pass filters</i> (Technically equivalent)
IEC 263:1982	BS 6397:1983 <i>Specification for scales and sizes for plotting frequency characteristics and polar diagrams</i> (Identical)

International Standard	Corresponding British Standard
IEC 651:1979	BS 5969:1981 <i>Specification for sound level meters</i> (Identical)
IEC 804:1985	BS 6698:1986 <i>Specification for integrating-averaging sound level meters</i> (Identical)

The Technical Committee has reviewed the provisions of ISO 8253-2, to which reference is made in clause 2 and 4.5.5 and in a note to 3.7, and of the draft of IEC 645-1, to which reference is made in clause 2 and 4.3.4, and has decided that they are acceptable for use in conjunction with this standard. ISO 8253-1, to which reference is made in a note to 3.6 and in the informative bibliography, is given for information only and does not affect the use of this Part of BS 5108.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, the EN title page, pages 2 to 8, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.