AS/NZS 1269.4:2014

Australian/New Zealand Standard™

Occupational noise management

Part 4: Auditory assessment

STANDARDS Australia

STANDARDS NEW ZEALAND PAEREWA AOTEAROA

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The following are represented on Committee AV-003:

Accident Compensation Corporation, New Zealand
Association of Australian Acoustical Consultants
Australian Acoustical Society
Australian Chamber of Commerce and Industry
Australian Council of Trade Unions
Department of Commerce, WorkSafe Division, Western Australia
Department of Defence, Australia
Engineers Australia
Ministry of Business, Innovation and Employment, New Zealand
Ministry of Health, New Zealand
National Acoustic Laboratories
New South Wales Nurses Association
New Zealand Audiological Society
WorkSafe, Victoria

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee AV-003, Acoustics, Human Effects, to supersede AS/NZS 1269.4.

This is Part 4 in a series of Standards as follows:

AS/NZS
1269 Occupational noise management
1269.0 Part 0: Overview and general requirements
1269.1 Part 1: Measurement and assessment of noise immission and exposure
1269.2 Part 2: Noise control management
1269.3 Part 3: Hearing protector program
1269.4 Part 4: Auditory assessment (this Standard)

The objective of this series of Standards is to provide requirements and guidance on all facets of occupational noise management. It is recommended that the reader refer to all Parts of AS/NZS 1269 to better understand all relevant terminology and objectives of occupational noise management.

This Standard lays down requirements and procedures for conducting pure-tone air conduction threshold audiometry that is used to monitor the hearing of individuals exposed to noise at work. Audiometric testing of persons exposed to excessive noise may be used for four distinct purposes as follows:

(a) The early detection of deterioration of hearing in persons exposed to excessive noise, so that noise management measures can be reviewed and action taken to prevent further deterioration.

(b) The identification and documentation of existing hearing loss.

(c) The prompt direction of those individuals who are identified as having a hearing loss to an appropriate rehabilitation program.

(d) The supply of any special communication or warning system that may be required within the workplace for an individual with a hearing loss.

The procedures in this Standard are not sufficient to diagnose the cause of an individual's hearing threshold loss or for the determination of percentage loss of hearing for compensation purposes. The Standard prescribes the conditions under which audiometry should be carried out, the form of the tests, and by whom the tests should be performed. It recommends the procedure for interpreting the test results and for comparison of a reference audiogram with follow-up (monitoring) audiograms, together with the course of action to be followed when deterioration of thresholds is detected.

The main changes from the 2005 edition of the Standard are replacement of the table of maximum acceptable ambient noise levels for particular makes and models of earphones/enclosure combinations with a method to calculate the maximum permissible ambient noise levels for any earphone/enclosure combination (Appendix C) and deletion of the informative appendix on otoacoustic emissions. The purpose of the change to Appendix C is to replace the device-based specification with a performance-based approach.

Where the number of an IEC Standard is provided in brackets after an Australian Standard number, the IEC Standard applies to New Zealand only and the Australian Standard applies to Australia only.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

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FOREWORD

Other parts of this series of Standards stress the importance of continuous monitoring of all phases of noise reduction and personal protector programs so that noise risks are addressed systematically and kept under constant control. Monitoring techniques include—

(a) periodic audits of management systems;

(b) regular inspections of plant, equipment and work processes;

(c) ongoing monitoring of condition and usage of noise control equipment and personal protective equipment; and

(d) re-assessments of noise on a regular basis and following any changes that could significantly alter noise exposure.

These techniques provide the information required to ensure that noise control and hearing protector programs are competently implemented, reviewed and, as time and resources permit, improved. For these purposes, checklists to assist in the evaluation of specific program elements are included in the appropriate sections of previous Parts.

If monitoring and evaluation are carried out systematically and any problems disclosed are promptly dealt with, there can be a high degree of confidence that the programs will be effective in minimizing occupational noise-induced hearing loss. However, organizations shall make a final outcome evaluation measure by providing noise-exposed employees with regular hearing tests, the results of which are examined for any signs of developing hearing loss. Such testing is not itself a protective mechanism and is relevant only in the context of a comprehensive noise management program.

Legislative requirements are also relevant in some jurisdictions. Most jurisdictions have workplace health and safety laws with a general requirement for health monitoring of workers exposed to hazards, and a specific regulatory requirement for regular audiometric testing for workers whose noise exposure is such that they need to rely on hearing protectors for risk management.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard
Occupational noise management

Part 4: Auditory assessment

1 SCOPE

This Standard specifies procedures and requirements for air conduction pure-tone audiometry (without masking) that are applicable to individuals whose hearing sensitivity might be adversely affected by occupational noise exposure and/or ototoxic agents.

2 APPLICATION

The procedures and requirements presented in this Standard are restricted to air conduction pure-tone threshold audiometry by earphones. Other techniques, such as bone conduction pure-tone threshold audiometry, masking and speech audiometry, are not specified. Techniques for computer-controlled audiometry are not specified but may be used. If used, computer-controlled audiometry techniques shall be shown to produce results equivalent to manual audiometry. The specifications in this Standard are not intended for audiological purposes.

3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS
1259 Acoustics—Sound level meters*
1259.1 Part 1: Non-integrating
1259.2 Part 2: Integrating—Averaging

AS IEC
60645 Electroacoustics—Audiological equipment
60645.1 Part 1: Pure-tone audiometers (IEC 60645-1:2001, MOD)

61672 Electroacoustics—Sound level meters
61672.1 Part 1: Specifications
61672.2 Part 2: Pattern evaluation tests

60942 Electroacoustics—Sound calibrators

AS/NZS
1269 Occupational noise management
1269.0 Part 0: Overview and general requirements
1269.1 Part 1: Measurement and assessment of noise immission and exposure
1269.3 Part 3: Hearing protector program

1270 Acoustics—Hearing protectors

4476 Acoustics—Octave-band and fractional octave-band filters

EN
352 Hearing protectors—Safety requirements and testing

* The AS 1259 series has been superseded by AS IEC 61672, Parts 1 and 2 but remains available for existing users. Following the completion of the AS IEC 61672 series, the AS 1259 series will be withdrawn.