

AS/NZS 1270:1999

Australian/New Zealand Standard™

**Acoustics—Hearing protectors**

## **AS/NZS 1270:1999**

---

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee AV/3, Acoustics, Human Effects. It was approved on behalf of the Council of Standards Australia on 17 September 1999 and on behalf of the Council of Standards New Zealand on 20 October 1999. It was published on 5 October 1999.

---

The following interests are represented on Committee AV/3:

Acoustics consulting interests, New Zealand  
Association of Australian Acoustical Consultants  
Association of Consulting Engineers, Australia  
Australian Acoustical Society  
Australian Chamber of Commerce and Industry  
Australian Hearing  
Australian and New Zealand Environment and Conservation Council  
Department of Labour, New Zealand  
Institute of Marine Engineers, Australia/New Zealand Division  
New South Wales Nurses Association  
New South Wales Rural Fire Service  
Royal Institution of Naval Architects, Australia  
Victorian WorkCover Authority  
WorkCover N.S.W.  
WorkSafe, Western Australia

Additional interests participating in preparation of Standard:

Institute for Environmental Science and Research, New Zealand  
University of Western Sydney  
WorkSafe Australia

---

### **Keeping Standards up-to-date**

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Australia web site at [www.standards.com.au](http://www.standards.com.au) or Standards New Zealand web site at [www.standard.co.nz](http://www.standard.co.nz) and looking up the relevant Standard in the on-line catalogue.

Alternatively, both organizations publish an annual printed Catalogue with full details of all current Standards. For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national standards organization.

We also welcome suggestions for the improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia International or Standards New Zealand at the address shown on the back cover.

---

AS/NZS 1270:1999

# Australian/New Zealand Standard™

## Acoustics—Hearing protectors

Originated as AS 1270—1975.  
Previous edition 1988.  
Jointly revised and designated as AS/NZS 1270:1999.

### **COPYRIGHT**

© Standards Australia/Standards New Zealand

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Jointly published by Standards Australia International Ltd, PO Box 1055, Strathfield, NSW 2135 and Standards New Zealand, Private Bag 2439, Wellington 6020

ISBN 0 7337 2940 1

## PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee AV/3, Acoustics, Human Effects, to supersede AS 1270—1988, *Acoustics—Hearing protectors*.

The major changes from the 1988 edition concern the method for measurement of the real-ear attenuation of hearing protectors, and are as follows:

- (a) Specification of noise bands instead of pure tones as test signals.
- (b) A reduction in the number of test signals from 21 to 7.
- (c) Adoption of a different method of assessing test signal distortion.
- (d) Introduction of a more direct procedure for evaluating background noise in the test room.

These changes bring the Standard into close alignment with corresponding technical provisions of ISO 4869-1:1990, *Acoustics—Hearing protectors*, Part 1: *Subjective method for the measurement of sound attenuation*. Requirements regarding directionality of the test signal sound field have also been added. In this case the provisions of ANSI S12.6—1997, *Methods for Measuring the Real-Ear Attenuation of Hearing Protectors* have been followed as the corresponding requirements of ISO 4869-1 are regarded as unsatisfactory.

The physical tests required for different types of hearing protectors are described in Section 3 of this Standard. These tests are unchanged from the 1988 edition, aside from the deletion of the contamination test which, on the basis of practical experience over the past 20 years, is no longer deemed necessary. A working group under the auspices of Subcommittee AV/3/2, Hearing Protectors, has been charged with reviewing the physical tests in the light of Australian and New Zealand experience; reviewing the physical tests defined in the EN 352 series of Standards, *Hearing protectors—Safety requirements and testing*; and recommending any revisions to the physical tests in the present Standard based on the outcomes of the reviews. The working group has commenced its assessment and any necessary modifications to the physical tests will be incorporated in the next revision of AS/NZS 1270.

Many Australian occupational noise regulations and codes of practice specify that hearing protector selection is to be based on attenuation data obtained in accordance with this Standard. It is vital that such data reflect the attenuation obtainable by informed users in workplaces with well managed and well supervised hearing protector programs—such as that described in [AS/NZS 1269.3:1998](#), *Occupational noise management*, Part 3: *Hearing protector program*—rather than the maximum attenuation the hearing protector can provide. The requirements and wording of Section 4 of this Standard are modelled on corresponding sections of ANSI S12.6 and the extensive research on which that Standard is based, as referenced in its bibliography.

Results obtained using this edition of the Standard are not expected to differ significantly from results obtained using previous editions. While the subject management procedures have been specified in greater detail, the principles underlying them remain the same. In effect the procedures specified simply make explicit the long-standing practices of Australian laboratories.

The impact of outlier results on the measured attenuation of a product has not been addressed in the present revision. Other standardization groups, including ISO/TC 43/SC 1/WG 17, Methods of measurement of sound attenuation of hearing protectors, and ANSI/S 12/WG 11, Field effectiveness and physical characteristics of hearing protectors, are considering whether the inclusion of outlier testing in their Standards is appropriate.

## CONTENTS

	<i>Page</i>
<b>SECTION 1 SCOPE AND GENERAL</b>	
1.1 SCOPE .....	4
1.2 APPLICATION .....	4
1.3 REFERENCED DOCUMENTS .....	4
1.4 DEFINITIONS .....	4
<b>SECTION 2 GENERAL REQUIREMENTS</b>	
2.1 DESIGN AND CONSTRUCTION .....	6
2.2 MATERIALS .....	6
2.3 WEARER INFORMATION .....	6
2.4 MARKING .....	7
<b>SECTION 3 PERFORMANCE</b>	
3.1 PHYSICAL REQUIREMENTS .....	8
3.2 TEST PROCEDURES .....	8
<b>SECTION 4 METHOD FOR MEASUREMENT OF THE REAL-EAR ATTENUATION OF HEARING PROTECTORS</b>	
4.1 SCOPE OF SECTION .....	12
4.2 PHYSICAL REQUIREMENTS OF THE TEST FACILITY .....	12
4.3 TEST SUBJECTS .....	16
4.4 PRODUCT SAMPLES .....	18
4.5 TEST PROCEDURE .....	18
4.6 COMPUTATION OF REAL-EAR ATTENUATION .....	21
4.7 COMPUTATION OF CLASS OF HEARING PROTECTOR .....	21
4.8 TEST REPORT .....	22
<b>APPENDICES</b>	
A CALCULATION OF $SLC_{80}$ AND CLASS OF HEARING PROTECTOR . . . .	23
B QUALITY CONTROL TESTS .....	25
C COUNTERBALANCING .....	26

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- Looking for additional Standards? Visit Intertek Inform Infostore
  - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-