

Australian Standard™

**Acoustics—Method for laboratory  
measurement of airborne sound  
insulation of building elements**

Building Code of Australia  
Primary referenced Standard



This Australian Standard was prepared by Committee AV-004, Acoustics, Architectural. It was approved on behalf of the Council of Standards Australia on 29 March 2002 and published on 24 April 2002.

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The following interests are represented on Committee AV-004:

Association of Australian Acoustical Consultants  
Australian Acoustical Society  
Australian Building Codes Board  
Australian Chamber of Commerce and Industry  
Australian Defence Force Academy  
Australian Hearing  
Building Industry Authority, New Zealand  
CSIRO Building, Construction and Engineering  
Department of Public Works and Services, N.S.W.  
New Zealand Acoustical Society  
RMIT University  
The Royal Australian Institute of Architects  
University of Auckland, New Zealand  
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Australian Standard™

**Acoustics—Method for laboratory  
measurement of airborne sound  
insulation of building elements**

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## PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee AV-004, Acoustics, Architectural to supersede AS 1191—1985, *Acoustics—Method for laboratory measurement of airborne sound transmission loss of building elements*. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

This Standard specifies the method for the laboratory measurement of the airborne sound reduction index of building elements such as walls, floor/ceiling assemblies, doors, windows and other space-dividing elements. Requirements and guidance for the rooms used for measurement are provided. In view of the size constraints of many existing test facilities in Australia, and the high cost of developing large, new facilities, this edition incorporates recommendations on the assessment of diffusivity of sound fields in transmission rooms and on making measurements in low-frequency bands. These recommendations are particularly intended to assist users of smaller test facilities in making valid measurements and in preparing accurate and unambiguous test reports.

This Standard is based on and conforms closely to the essential principles of ISO 140 *Acoustics — Measurement of sound insulation in buildings and of building elements*, Part 1: *Requirements for laboratory test facilities with suppressed flanking transmission* and Part 3: *Laboratory measurements of airborne sound insulation of building elements*.

The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is only for information and guidance.

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## STANDARDS AUSTRALIA

## Australian Standard

**Acoustics—Method for laboratory measurement of airborne sound insulation of building elements****1 SCOPE**

This Standard specifies the method for measuring the airborne sound reduction index of building elements such as walls, floor/ceiling assemblies, doors, windows, and other space-dividing elements.

**2 APPLICATION****2.1 General**

This Standard provides a method for evaluating the sound insulating performance of an isolated building element in the laboratory. The values of sound reduction index measured according to this Standard can be used to calculate a single number characterizing the acoustical performance of the building element, namely, the weighted sound reduction index ( $R_w$ ) defined in AS/NZS 1276.1.

**2.2 Building Code of Australia**

This Standard will be referenced in the Building Code of Australia by way of BCA Amendment No. 11 to be published by 1 July 2002, thereby superseding the previous edition, AS 1191—1985, which will be withdrawn 12 months from the date of publication of this edition.

**3 REFERENCED DOCUMENTS**

The following documents are referred to in this Standard:

**AS**

1045 Acoustics—Measurement of sound absorption in a reverberation room

1633 Acoustics—Glossary of terms and related symbols

1259 Acoustics—Sound level meters

1259.1 Part 1: Non-integrating

1259.2 Part 2: Integrating—Averaging

**AS/NZS**

1276 Acoustics—Rating of sound insulation in buildings and of building elements

1276.1 Part 1: Airborne sound insulation

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

**ISO**

140 Acoustics—Measurement of sound insulation in buildings and of building elements

140-3 Part 3: Laboratory measurements of airborne sound insulation of building elements

Guide to the expression of uncertainty in measurement

**4 DEFINITIONS**

For the purpose of this Standard, the definitions in AS 1633 and those below apply.