AS 5218:2018

Acoustic performance of windows and doors—Methods of test

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The following are represented on Committee BD-021:

- Australasian Institute of Surface Finishing
- Australian Glass and Glazing Association
- Australian Industry Group
- Australian Window Association
- CSIRO
- Housing Industry Association Inc
- Master Locksmiths Association of Australasia
- National Association of Testing Authorities Australia
- Australian Institute of Building Surveyors

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Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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Australian Standard®

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PREFACE

This Standard was prepared by the Standards Australia Committee BD-021, Doors and Windows.

The objective of this Standard is to establish a method for determining acoustic performance of windows and doors designed for installation in all classes of buildings.

The methodology described in this Standard is based on standard sized windows and doors and provides manufacturers and consumers with like-for-like comparative data for assessing product performance.

This Standard is intended to be read in conjunction with AS 1191, *Acoustics—Method for laboratory measurement of airborne sound transmission insulation of building elements*.

Where reference is made to a Standard by its number only, the reference applies to the current edition of the Standard. Where reference is made to a Standard by number, year and where relevant an amendment number, the reference applies to that specific document.

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.

CONTENTS

STANDARDS AUSTRALIA

Australian Standard

Acoustic performance of windows and doors—Methods of test

1 SCOPE

This Standard sets out a method for determining an aspect of performance of windows and doors designed for installation in all classes of buildings. It addresses the resistance of the test window or door to external noise.

2 NORMATIVE REFERENCES

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

NOTE: Documents for informative purposes are listed in the Bibliography.

AS
1191 Acoustics—Method for laboratory measurement of airborne sound transmission insulation of building elements

2047 Windows and external glazed doors in buildings

AS/NZS ISO
717 Acoustics—Rating of sound insulation in buildings and of building elements
717.1 Part 1: Airborne sound insulation

3 DEFINITIONS

For the purpose of this Standard, the definitions in AS 2047 and those below apply.

3.1 Average sound pressure level (L_p)

Ten times the logarithm to the base 10 of the ratio of the average of the mean square sound pressures to the square of the reference sound pressure, the average being taken over the entire room, with the exception of those parts where the direct radiation of the sound source or the near field of the boundaries, such as walls, floor or ceiling, is of significant influence. For discrete microphone positions, it is expressed as follows:

$$L_p = 10\log_{10}\frac{p_1^2 + p_2^2 + \ldots\ldots + p_n^2}{np_0^2} \quad \ldots 3.1$$

where

$p_1, p_2 \ldots p_n$ = r.m.s. sound pressures at n different positions in the room

p_0 = reference sound pressure

NOTE: The actual reference pressure is not important provided that it is the same for both rooms.

3.2 Average sound pressure level difference (D)

The difference between the average sound pressure level in the room containing the sound source and the average sound pressure level in the receiving room. It is expressed as follows:

$$D = L_{p1} - L_{p2} \quad \ldots 3.2$$