Australian Standard™

Acoustics—Methods for the measurement of railbound vehicle noise

Standards Australia

This Australian Standard was prepared by Committee EV-010, Acoustics, Community Noise. It was approved on behalf of the Council of Standards Australia on 29 March 2002 and published on 7 May 2002.

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Air Services Australia

The Association of Consulting Engineers Australia

Australian Acoustical Society

Australian and New Zealand Environment and Conservation Council

Australian Hearing

AUSTROADS

Bureau of Steel Manufacturers of Australia

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Australian Standard™

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EV-010, Acoustics, Community Noise to supersede AS 2377—1980, *Methods for the measurement of airborne sound from railbound vehicles*. 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 provides methods for type tests and monitoring tests of railbound vehicles. It also provides methods for assessing noise immission associated with railbound vehicles, but not strictly applicable to such vehicles as monorail or those commonly categorized as 'trams' or 'light-rail'. The results of immission tests can be used to develop guidelines on building siting and construction against noise in the vicinity of railway lines and railway yards.

The major changes from the 1980 edition are as follows:

(a) The vehicle tests have been updated to reflect operational changes associated with advances in technology, such as higher speeds and different forms of braking.

(b) The requirements for measuring equipment have been updated.

(c) The scope of the Standard has been extended to include methods for noise immission tests for railbound vehicles.

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STANDARDS AUSTRALIA

Australian Standard

Acoustics—Methods for the measurement of railbound vehicle noise

1 SCOPE

This Standard sets out methods for the measurement of airborne sound for the determination of the A-weighted, C-weighted and sound spectral characteristics emitted by all types of railbound vehicles (see Note 1). This Standard also provides methods for measurement and documentation of noise immission associated with railbound vehicles.

NOTES:

1 Railbound vehicles can include locomotives, railbound carriages, wagons and vehicles, monorails and rail motors. Maintenance and construction equipment is not included.

2 For the purposes of this Standard, noise from railbound vehicles includes components generated directly by the vehicle and its operation, as well as rail-wheel interaction components.

3 It is expected that the provisions of this Standard will be interpreted by a qualified acoustician experienced in the characteristics of noise from railbound vehicles.

2 APPLICATION

This Standard provides methods for type tests and monitoring tests of railbound vehicles in motion and when stationary, and includes technical provisions which may be specified in contracts for various categories of railbound vehicles. This Standard also provides methods for determining noise immission from railbound vehicles which may be requested by regulatory authorities in the assessment of railway noise.

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
1633	Acoustics—Glossary of terms and related symbols
2533	Acoustics—Preferred frequencies for measurements
2659	Guide to the use of sound measuring equipment
2659.1	Part 1: Portable sound level meters
AS/NZS	
4476	Acoustics—Octave-band and fractional-octave-band filters
DIN	
45657	Sound level meters requirements for special applications

4 DEFINITIONS

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

