

Australian Standard[®]

**Guide to noise and vibration control on
construction, demolition and
maintenance sites**



This Australian Standard® was prepared by Committee EV-010, Acoustic Community Noise. It was approved on behalf of the Council of Standards Australia on 22 April 2010. This Standard was published on 18 May 2010.

The following are represented on Committee EV-010:

- AirServices Australia
 - Association of Consulting Engineers
 - Australian Acoustical Society
 - Austroads
 - Bureau of Steel Manufacturers of Australia
 - CSIRO Manufacturing & Infrastructure Technology
 - Department of Defence (Australia)
 - Institute of Marine Engineers Australia/New Zealand Division
 - Ministry of Health (New Zealand)
 - National Acoustic Laboratories
 - National Environment Protection Council
 - New Zealand Acoustical Society
 - University of Sydney
-

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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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**Guide to noise and vibration control on
construction, demolition and
maintenance sites**

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PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee EV-010, Acoustic Community Noise to supersede AS 2436—1981, *Guide to noise control on construction, maintenance and demolition sites*. 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 is concerned with noise and vibration from construction, demolition and maintenance sites as it affects persons working on these sites and also those living and working in the neighbourhood. This Standard provides guidance in noise and vibration control on such sites and includes guidance in investigation and identification of sources, measurements of sound and vibration, and guidance in assessment with a view to planning measures for noise control and monitoring of their effectiveness. This Standard is applicable to a wide range of different activities associated with construction, demolition and maintenance works. It is intended to assist local and/or regulatory authorities, developers, builders, architects, engineers, planners, designers and contractors in planning and/or assessing measures for control of noise and vibration on and from construction, demolition and maintenance sites.

Construction, demolition and maintenance works pose different problems of noise and vibration control when compared with most other types of industrial activity, since—

- (a) they are mainly carried on in the open;
- (b) they are often temporary in nature although they may cause considerable disturbance whilst they last;
- (c) the noise and vibration arise from many different activities and kinds of plant, and their intensity and character may vary greatly during different phases of the work; and
- (d) the sites cannot be separated by planning control, from areas that are sensitive to noise and vibration.

Much of the noise and vibration from construction, demolition and maintenance work is caused by plant and equipment. In some cases the noise or vibration generated may be unacceptable and reduction is necessary for the benefit of people both on and off the site.

Noise from construction, demolition and maintenance work may cause impairment of hearing to persons working on site. Exposure of workers to excessive vibration may cause circulatory problems in the hands, damage to tendons and increase the risk of lower back pain. Noise and vibration may also be a cause of annoyance to people living and working in nearby premises, and to people outdoors in the vicinity.

In this Standard, measures are listed that can be adopted by those concerned in the planning and implementation of construction, demolition and maintenance works to ensure good practice is employed. Any such measures should always have due regard to safety. Many responsible sections of industry already make use of the measures included in this Standard for noise and vibration control on construction, demolition and maintenance sites.

Guidance on the estimation of noise from sites, typical noise levels from plant, noise sources and remedial actions, and screens and enclosures is given in appendices.

In the preparation of this Standard the following documents were consulted:

US Department of Transportation, *FHWA Highway Construction Noise Handbook*, Federal Highway Administration Final Report, August 2006, document number: FHWA-HEP-06-015, DOT-VNTSC-FHWA-06-02, NTIS No. PB2006-109102

NSW DECC Interim Construction Noise Guideline, July 2009

NSW DEC Assessing Vibration: A Technical Guideline February 2006

NSW RTA Environmental Noise Management Manual, December 2001

Department for Environment Food and Rural Affairs (United Kingdom). *Update of noise database for prediction of noise on construction and open sites, Phase 3: Noise measurement datar construction plant used on quarries*. July 2006.

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STANDARDS AUSTRALIA

Australian Standard

Guide to noise and vibration control on construction, demolition and maintenance sites

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard provides guidance on noise and vibration control in respect to construction, demolition and maintenance sites. This Standard also provides guidance for the preparation of noise and vibration management plans, work method statements and environmental impact studies.

1.2 OBJECTIVE

The purpose of this Standard is to assist local and/or regulatory authorities, developers, builders, architects, engineers, planners, designers and contractors in planning and/or assessing noise and vibration control measures on and from construction, demolition and maintenance sites.

1.3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

- 1055 Acoustics—Description and measurement of environmental noise (series)
- 2187 Explosives—Storage and use
- 2187.2 Part 2: Use of explosives
- 2670 Evaluation of human exposure to whole-body vibration (series)
- 2763 Vibration and shock—Hand-transmitted vibration—Guidelines for measurement and assessment of human exposure
- 2775 Mechanical vibration and shock—Mechanical mounting of accelerometers

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

AS/IEC

- 60942 Electroacoustics—Sound calibrators
- 61672 Electroacoustics—Sound level meters
- 61672.1 Part 1: Specifications