

SINGAPORE STANDARD

**Code of practice for noise control on
construction and demolition sites**

[Formerly CP 49]



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and demolition sites**

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Institution of Engineers, Singapore

Land Transport Authority

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National University of Singapore

Shimizu Corporation

Contents

	Page
Foreword _____	7
0 Introduction _____	8
1 Scope _____	8
2 Normative references _____	9
3 Definitions _____	9
4 Community relations _____	9
5 Training _____	10
6 Disturbing effects of noise _____	10
7 Rating of noise _____	10
8 Noise from construction sites _____	11
9 Monitoring _____	11
10 Project supervision _____	11
11 Design stage _____	11
12 Tender stage _____	12
13 Planning stage _____	12
14 Construction stage _____	13
 Annexes	
A Acoustical terminology _____	15
B Estimating noise from sites _____	18
C Noise from construction sites _____	22
D Noise monitoring _____	23
E Estimation of equipment and plant noise levels _____	28
F Noise control techniques _____	33
G Selection of quieter construction equipment and construction methods _____	47
H Noise impact assessment and noise management plan _____	48
I Noise estimation example _____	54
 Tables	
B.1 Addition of sound levels _____	21
D.1 Correction to be applied to the total measured sound level to determine the level of construction noise in the presence of ambient noise _____	23
E.1 A-weighted sound power levels with sound levels at a distance from a source _____	29
E.2 Typical A-weighted sound power levels from site equipment _____	30

	Page
F.1 Some noise sources and possible remedies _____	33
F.2 Typical examples of noise reduction _____	36
F.3 Relative effectiveness of various forms of noise control _____	38
F.4 Sound insulation characteristics of common building materials _____	40
F.5 Sound absorbing materials for lining of covers and enclosures _____	40
F.6 Measured sound reduction given by types of partial enclosure _____	43
I.1 Noise estimation for concreting process (steps 1 to 3) _____	54
I.2 Noise estimation for concreting process (steps 1 to 7) _____	55

Figures

B.1 Amount to be subtracted from sound power level to determine the sound level at some distance from a source _____	20
F.1 Piling alternatives _____	35
F.2 Machine enclosure _____	37
F.3 Acoustic shed _____	41
F.4 Acoustic open-sided sheds _____	42
F.5 Screening effect of barriers _____	44
F.6 Determination of noise barrier height _____	45
H.1 Process of noise impact assessment and noise management plan _____	49

Foreword

This Singapore Standard was prepared by a Working Group appointed by the Technical Committee on Construction Management which is under the purview of the Building and Construction Standards Committee.

CP 49 : 1989 - 'Code of Practice for Noise Control on Construction and Demolition Sites' was first published in 1989 and has undergone two revisions in 1998 and 2014. It has also been re-numbered as SS 602 : 2014 in this revision.

This Code was revised to include the considerable experience that had been accumulated on the control of construction noise since the publication of CP 49 : 1998. It is updated with the latest information on the methodology of noise monitoring at construction and demolition sites, and the measures that can be adopted to reduce noise from various construction and demolition equipment.

The Code also highlights the importance of ensuring that excessive construction noise is avoided at all times to protect nearby residents. Responsibility for minimising construction noise rests with the developers, planners, engineers, architects and all site personnel through proper scheduling of construction activities. Noisy operations to be carried out during less noise-sensitive periods of the day take into consideration the use of appropriate quieter types of construction equipment and the use of noise control measures on noisy equipment.

Site personnel should also be informed about the hazards of excessive noise and be protected against potential noise-induced hearing loss by the use of appropriate personal hearing protection. For more information on the protection of site personnel against noise-induced hearing loss, refer to SS 549 : 2009 - 'Code of practice for selection, use, care and maintenance of hearing protectors' and CP 99 : 2003 - 'Code of practice for industrial noise control'.

In preparing this standard, reference was made to the following standards:

- 1) BS 5228-1 : 2009 Noise and vibration control on construction and open sites – Part 1 : Noise
- 2) BS 5228-2 : 2009 Noise and vibration control on construction and open sites – Part 2 : Vibration
- 3) ISO 10847 : 1997 Acoustic – In-situ determination of insertion loss of outdoor noise barriers of all types

Acknowledgement is made for the use of materials and information from the above publications.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

NOTE

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions.*
2. *An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR.*
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Code of practice for noise control on construction and demolition sites

0 Introduction

Construction and demolition works pose different problems of noise control as compared to other types of industrial activity since:

- (a) they are mainly carried out in the open;
- (b) they may cause great disturbance, especially in built-up areas;
- (c) work may be carried out overnight due to safety reasons;
- (d) the noise they make arises from many different types of equipment and activities, and its intensity and character may vary greatly during different phases of the work;
- (e) the sites cannot be easily set apart by planning control, as factories can, from areas which are sensitive to noise, and very often may be adjacent to such areas.

Much of the noise from construction and demolition sites is caused by machinery and Singapore, in the last few years, has seen an increase in mechanisation in the construction industry. It is now widely recognised that the noise levels generated are unacceptable in many instances and that reductions are necessary for the benefit of both the industry and the public. In this aspect, it is to be noted that quieter construction machinery and methods; and noise mitigating equipment are now available and their use is to be encouraged.

Noise from construction and demolition works may:

- (a) cause occupational deafness in persons working on site; and
- (b) cause disturbance to people living and working in the vicinity particularly in Singapore where windows are often left open for ventilation and building space is limited.

1 Scope

This Code lists the measures which can be adopted by those concerned in the development and execution of construction and demolition works to ensure that good practice in noise control is employed. Any such measures should always have due regard to safety, which is of paramount importance in the construction as well as the demolition sites.

Information on estimation of noise from sites, methods of monitoring, estimation of construction noise levels, noise control techniques, and selection of quieter construction equipment and methods is given in Annexes B to G.

The provision of this Code shall follow the requirements of the Environmental Protection and Management (Control of Noise at Construction Sites) Regulations.

2 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61672-1 Electroacoustics – Sound level meters – Part 1: Specifications

Environmental Protection and Management Act (Chapter 94A) – Revised Edition 2002

Environmental Protection and Management (Control of Noise at Construction Sites) Regulations – Revised Edition 2008