Singapore Standards Council

CP 99 : 2003
(ICS 13.140)

SINGAPORE STANDARD

Code of practice for industrial noise control

Erratum No. 1 (issued separately)

Published by
Enterprise Singapore

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Code of practice for industrial noise control

ISBN 9971-67-912-4

This Singapore Standard was approved by the General Engineering and Safety Standards Committee on behalf of the Standards Council of Singapore on 24 January 2003.

First published, 2003

The General Engineering and Safety Standards Committee, appointed by the Standards Council, consists of the following members:

		Name	Organisation
Chairman	:	Mr Tan Pui Guan	*Standards Council*
Deputy Chairman	:	Mr Ng Thin Teng	*Standards Council*
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		Mr Seet Choh San	*Singapore Institution of Safety Officers*
		Mr George Sze	*CPG Consultants Pte Ltd*
		Mr Tan Swee Hong	*Singapore Contractors Association Limited*
Co-opted Member	:	Mr Chan Yew Kwong	*TC for Safety Management*

The previous Technical Committee on Equipment and Machinery Safety in Workplace was responsible for the initiation of this standard. With the restructuring and formation of the General Engineering and Safety Standards Committee in Oct 2001, the Technical Committee on Safety of Machinery was formed to undertake the responsibility of this standard. This newly formed Technical Committee consists of representatives from the following organisations:

		Name	Organisation
Chairman	:	Mr Cheah It Cheng	*General Engineering and Safety Standards Committee*
Secretary	:	Mr Benny Lim	*SPRING Singapore*
Members	:	Mr Ang Ban Gee	*Association of Singapore Marine Industries*
		Mr Lau Huat Poh	*Singapore Contractors Association Limited*
		Ms Jane Lee	*Occupational Safety Dept, Ministry of Manpower*
		Mr Robert Lee	*Singapore Institute of Manufacturing Technology*
		Mr Eric Lim	*Singapore Industrial Automation Association*
		Mr Mok Lip Wee	*Institution of Engineers Singapore*

		Name	Organisation
Members	:	Mr Ong Eng Chan	*Singapore Polytechnic*
		Mr Steven Teo Kim Chen	*Singapore Confederation of Industries*
		Dr Wee Yue Chew	*Singapore Precision Engineering & Tooling Association*
		Mr Edwin Yap	*Singapore Institution of Safety Officers*
Co-opted Members	:	Assoc Prof M Rahman	*Working Group Convenor*
		Mr Tan Soo Hoon	*Working Group Convenor*

The Working Group appointed by the Technical Committee to assist in the preparation of this standard comprises the following members:

		Name	Organisation
Convenor	:	Assoc Prof M Rahman	*National University of Singapore*
Members	:	Assoc Prof Chew Chye Heng	*National University of Singapore*
		Assoc Prof Huang Xiaoyang	*Nanyang Technological University*
		Assoc Prof Lim Siak Piang	*National University of Singapore*
		Mr Stephen Soon	*Shama Technologies (S) Pte Ltd*
		Dr Sun Qiqing	*PSB Corporation Pte Ltd*
		Mr Tan Kia Tang	*Occupational Health Dept, Ministry of Manpower*
		(alternate member Ms Tan Chuen Hui)	
		Dr Tan Kok Yang	*Acoustical Laboratory Pte Ltd*

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Foreword

Noise is unwanted sound and is common in an industrial environment. Prolonged exposure to excessive noise may cause hearing loss or noise-induced deafness (NID) which cannot be cured. In Singapore, as of 2001, there are more than 1700 workplaces with noise levels above 85 dBA and there are more than 67000 workers exposed to excessive noise. Each year, about 700 cases of NID are reported. However, measures are available to control noise and prevent NID.

Under the Factories Act, there is a provision requiring factory occupiers to take practical measures to control excessive noise and vibration. The Factories (Noise) Regulations, which were enacted in 1997, specify the permissible exposure limits to noise, and the various engineering methods to control noise and vibration. Among other things, the Regulations require factory occupiers or employers to appoint a competent person to advise on all noise control measures if 50 or more persons are exposed to excessive noise.

The purpose of this Code is to provide detailed technical information on noise and vibration control for acoustic specialists, plant engineers, safety and health professionals, technical personnel and people who wish to apply practical measures to control noise and vibration. Specifically, the code provides worked examples on engineering noise control such as the use of acoustic barriers, enclosures, partition walls, silencers, isolators, sound absorbing and damping materials. It also provides guidance on planning for noise control at the plant design stage, as well as the roles and responsibilities of factory occupiers and appointed competent persons with respect to noise monitoring, noise control planning and noise hazard management.

This Code was prepared by the Working Group appointed by the Technical Committee for Equipment and Machinery Safety in Workplaces which has been restructured and known as the Technical Committee for Construction and Safety of Machinery.

In the preparation of this Code, reference was mainly made to the following publications:

1. The Factories(Noise) Regulations
2. Guidelines for Industrial Noise and Vibration Control (published by the Ministry of Manpower)
3. A Code of Practice for Noise Control in the Workplace published by the Occupational Health, Safety & Welfare Commission of Western Australia
4. AS/NZ 1269.2 : 1998 – Noise control management
5. Shock and Vibration Handbook (4th edition), Cyril M. Harris, McGraw-Hill

The diagrams from the Shock and Vibration Handbook (4th edition) by Cyril M Harris, copyright 1995, are reproduced with permission from the McGraw-Hill Companies.

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

All Annexes are for information only.

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.*

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3. *Compliance with a SS or TR does not exempt users from any legal obligations.*

Code of practice for industrial noise control

1 Scope

This Code aims to provide information on industrial noise control measured by engineering means such as barriers, enclosures, absorbers, damping materials, silencers and isolators.

It is applicable to all industrial workplaces except for construction and demolition sites that are covered by SS CP 49. With reference to the proper noise criteria, this Code is applicable to other workplaces.

This Code does not cover community noise, transportation noise, construction noise and noise from public entertainment.