

SINGAPORE STANDARD
SS 514 : 2005
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CODE OF PRACTICE FOR
Office ergonomics

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Foreword

This Singapore Standard was prepared by the Technical Committee on Personal Safety and Ergonomics under the direction of the General Engineering and Safety Standards Committee.

The purpose of this Code on Office Ergonomics is to provide guidance to users, employers and manufacturers responsible for the introduction of occupational health practices, the specification and procurement of office equipment. With the rapid introduction of information technology, the use of personal computers (PCs) has become prevalent. Unfortunately, PCs have often been installed in offices without due attention to ergonomic principles. This can cause muscular aches and pains, visual discomfort, work stress, lower worker motivation, absenteeism and sub-optimal productivity. Most of these problems can be prevented by applying ergonomic principles in the workplace, comprising work, physical and social environment, and workstation design. This code provides guidance on how to achieve a better quality of working life for staff working in office environments.

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

1. Guidelines for office ergonomics (Occupational Health Department, Ministry of Manpower – 2001)
2. Guidelines for work with visual display units (Occupational Health Department, Ministry of Manpower – 1997)
3. ISO 9241 Ergonomic requirements for office work with visual display terminals (VDTs)
4. Visual display units (chapter 52), Encyclopaedia of occupational safety and health (International Labour Office, Geneva – 4th Edition – 1998)
5. NIOSH publication on video display terminals (National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services – 3rd Edition – 1999)
6. Guidelines for good indoor air quality in office premises (Singapore Institute of Environmental Epidemiology – 1996)
7. BSR/HFES100 – Human Factors Engineering of Computer Workstations (The Human Factors and Ergonomics Society – 2003)
8. SS CP 13 : 1999 Mechanical ventilation and air-conditioning in buildings
9. SS CP 38 : 1999 Artificial lighting in office buildings
10. SS CP 92 : 2002 Manual handling

Acknowledgement is made for the use of 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. SPRING Singapore shall not be held responsible for identifying any or all of such patent rights.

NOTE

1. *Singapore Standards are subject to periodic review to keep abreast of technological changes and new technical developments. The changes in Singapore Standards are documented through the issue of either amendments or revisions.*
2. *Compliance with a Singapore Standard does not exempt users from legal obligations.*

1.1 Physical factors

Office equipment and furniture which are not ergonomically designed and which are not properly laid out and used, can result in undesirable static postures and awkward movements. This can lead to muscular fatigue and strain, and eventually physical injury (see Clauses 6 and 7). Poorly designed information displays can also contribute to eye strain and associated symptoms such as headaches.

1.2 Environmental factors

Temperatures which are too high or too low (see Clause 7 and Annex C), contaminants in the air, noise, inappropriate lighting and poor housekeeping are environmental factors which by themselves or in combination with other factors, can cause distraction, discomfort, stress, ill health and loss of productivity. In addition, poor lighting design and specification can contribute to glare and eye strain.

1.3 Psychosocial factors

Excessive work load, repetitive and monotonous tasks, unrealistic work expectations, constant adaptation to new requirements, lack of meaningful job content, lack of control over the work, lack of organisational support and poor work team relationships, are factors which can contribute to mental and psychosocial stress (see Clause 8).

2 Scope

This code provides guidelines on the designs and improvements of working situations to make the workplace safer, more comfortable and more productive. It covers the fundamentals of office ergonomics including physical, environmental and psychosocial elements. For preliminary ergonomics audit, a sample checklist (Annex A) could be used to identify potential problems for further improvements on the design. For more comprehensive address of ergonomic concerns, qualified Ergonomists and Human Factors Engineers could be consulted for the design and specification of customised/specialised offices.

3 Definitions

For the purpose of this Singapore Standard, the following definitions apply:

3.1 Armrest

Support for the lower arms.

3.2 Back rest

Part of a work chair which provides support for the back.

3.3 Button

Mechanical object integrated into an input device, which responds to force when depressed, and provides input to the computer.

3.4 Castors

Wheeled component at the bottom of furniture to facilitate appropriate movement on the floor surface.

3.5 Click

Depression and release of a button or actuation point on an input device.