

SINGAPORE STANDARD

Code of practice for office ergonomics



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The organisations in which the experts of the Working Group are involved are:

Human Factors and Ergonomics Society of Singapore
Ministry of Manpower
Occupational and Environmental Health Society
Singapore Association of Occupational Therapists
Singapore Institution of Safety Officers

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Foreword

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

It is a revision of SS 514 : 2005, “Code of practice for office ergonomics”.

The summary of changes from the 2005 edition is as follows:

- (a) Inclusion of ergonomic tips for mobile devices, smartphones and tablets;
- (b) Inclusion of correct sitting posture for height-adjustable table;
- (c) Inclusion of considerations for older workers;
- (d) Update of dimensions of work surface height and seat depth;
- (e) Revision of the diagrams;
- (f) Revision of Annex B “Medical examination for computer users”;
- (g) Alignment with industry practices.

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

- 1. ANSI/HFES 100 Human factors engineering of computer workstations
- 2. AS 3590.2 Screen-based workstations. Part 2: Workstation furniture
- 3. ISO 9241 Ergonomics of human-system interaction
- 4. SS 531 : Part 1 Code of practice for lighting of work places – Part 1 : Indoor
- 5. SS 553 Code of practice for air-conditioning and mechanical ventilation in buildings
- 6. SS 554 Code of practice for indoor air quality for air-conditioned buildings
- 7. SS 569 Code of practice for manual handling
- 8. Anthropometry of the Singaporean and Indonesian populations. International Journal of Industrial Ergonomics
- 9. NIOSH publication on video display terminals (National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services – 3rd Edition)
- 10. Workplace Safety and Health Guidelines. Improving Ergonomics in the Workplace. Workplace Safety and Health Council Singapore.
- 11. Work with display screen equipment. Health and Safety Executive. UK.
- 12. Visual display units, (chapter 52), Encyclopaedia of occupational health and safety (International Labour Office, Geneva – 4th Edition)

Figure 6 on workstation design is reproduced with the permission of the Singapore General Hospital.

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

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NOTE

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Code of practice for office ergonomics

0 Introduction

0.1 It is established that work performed using computers and other equipment subject users to an interactive combination of three types of loads, namely:

a) 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. Poorly designed information displays can also contribute to eye strain and associated symptoms such as headaches.

b) Environmental factors

Temperatures which are too high or too low, air contaminants, noise, inappropriate lighting and poor housekeeping are environmental factors that 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.

c) Psychosocial factors

Excessive work loads, 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 team relationships are factors which can contribute to mental and psychosocial stress.

The interaction between the worker and these loads is shown in Figure 1. An excessive load in any of the three areas may affect worker comfort and health.

0.2 Ergonomics is the science of designing work and workplaces to accommodate user's physical and psychological needs. It aims to minimise our limitations and amplify user's capabilities. Office ergonomics is the application of ergonomic principles in an office setting. The objective of office ergonomics is to maximise the quality of working life and to minimise the aforementioned "loads" so that the risk of undesirable health and productivity problems may be reduced.

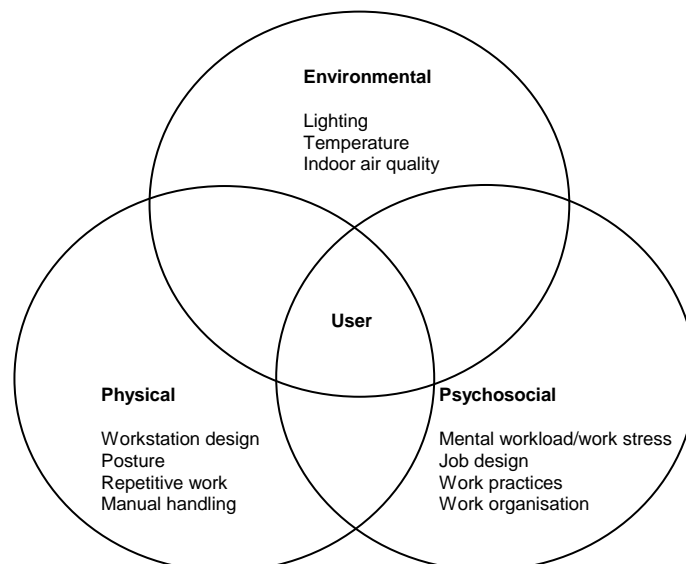


Figure 1 – Three interacting loads on an office worker

1 Scope

This standard 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 (see 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.

2 Normative references

There are no normative references cited in this Singapore Standard.