

SINGAPORE STANDARD

**Code of practice for the safe use of
machinery**

– Part 1 : General requirements



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– Part 1 : General requirements

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Foreword

This Singapore Standard was prepared by the Technical Committee on Safety of Machinery under the purview of the General Engineering and Safety Standards Committee.

Machinery can be used to perform tasks safely only when there are safety devices which are functioning effectively and are used properly. In Singapore, a large number of workers in the manufacturing sector suffer bodily injuries and loss of limbs as a result of unsafe use of machinery. This is often a result of unsafe acts and conditions. A machine becomes unsafe if its safety features are lacking, bypassed or ignored. Reasons for unsafe acts/behaviour by users include users' ignorance, lack of experience or disregard for safety. This code of practice therefore serves as a guide for the safe use of machinery.

This standard provides machine owners and users with the basic principles for the safe use of machinery. It includes various aspects of machinery safety, such as hazard identification and assessment, machinery design, safe use, installation considerations, maintenance and safe work practices. It describes basic safety features and devices typically used to safeguard machines and the safety considerations that users have to take into account during design or modification.

This standard will enable machine owners and users to apply these basic principles to any type of machine, thereby raising the level of machine safety awareness, minimising the number of machine-related injuries, and, enhancing the morale and productivity of the workers in the industry. Compliance with this standard does not exempt users from legal obligations prescribed by the local authorities.

This is a generic part of the standard. The standard will be expanded in future to include the requirements of specific machinery.

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

BS PD 5304 : 2005	Guidance on safe use of machinery
ISO 13851 : 2002	Safety of machinery – Two-hand control devices – Functional aspects and design principles
ISO/TR 18569 : 2004	Safety of machinery – Guidelines for the understanding and use of safety of machinery standards

Acknowledgement is made for the use of information from the above publications. Permission has also been sought from the British Standards Institution to incorporate parts of BS PD 5304 : 2005 into the Singapore Standard.

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

Code of practice on safe use of machinery – Part 1 : General requirements

1 Scope and application

1.1 Scope

This code of practice provides comprehensive guidelines on the methods for safeguarding the dangerous parts of machinery and enhancing safety in the use of machinery. It also provides basic requirements on the design and manufacture of machinery so as to ensure that machinery used in Singapore is incorporated with basic safety features. The code also provides guidelines on the safety and health issues relating to the installation, testing, maintenance and servicing of machinery.

Only mechanical hazards will be covered in detail in this standard.

1.2 Application and use

This code is intended for those who use machinery, machinery guarding or safety devices. It is also intended to be used by those concerned with providing information, instruction and training in safe work practices.

The aim is to promote a high standard of machine safety. It describes and illustrates a variety of safety measures and explains methods by which it is reasonable to adopt in particular circumstances. It will, however, be necessary to consult specific legislation in applying the principles set down. Although reference is made to specific types of machine, specific recommendations are not given for every type of machine.

Users of this code should be aware that developments are constantly being introduced to improve the safeguarding of machinery.

2 Normative references

The following reference 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.

CP 74 : 1998	Code of practice for selection, use, and maintenance of respiratory protective devices
CP 91 : 2001	Code of practice for lockout procedures
CP 99 : 2003	Code of practice for industrial noise control
SS 473 : 1999 series	Personal eye-protectors
SS 508 : 2004 series	Graphical symbols – Safety colours and safety signs
IEC 60204-1 : 2005	Safety of machinery – Electrical equipment of machines – Part 1: General requirements
ISO 7250 : 1996	Basic human body measurements for technological design
ISO 10472-1 to 6 : 1997	Safety requirements for industrial laundry machinery
ISO 13851 : 2002	Safety of machinery – Two-hand control devices – Functional aspects and design principles

ISO 13852 : 1996	Safety of machinery – Safety distances to prevent danger zones being reached by the upper limbs
ISO 13853 : 1998	Safety of machinery – Safety distances to prevent danger zones being reached by the lower limbs
ISO 13854 : 1996	Safety of machinery – Minimum gaps to avoid crushing of parts of the human body
ISO 13855 : 2002	Safety of machinery – Positioning of protective equipment with respect to the approach speeds of parts of the human body
ISO 13856-1 : 2001	Safety of machinery – Pressure-sensitive protective devices – Part 1 – General principles for design and testing of pressure-sensitive mats and pressure-sensitive floors
ISO 14120 : 2002	Safety of machinery – Guards – General requirements for the design and construction of fixed and movable guards
ISO 14159 : 2002	Safety of machinery – Hygiene requirements for the design of machinery
ISO 12100-2 : 2003	Safety of machinery – Basic concepts, general principles for design – Part 2 – Technical principles
ISO 15534 series	Ergonomic design for the safety of machinery