

(ICS 91.140.50; 91.160.10)

SINGAPORE STANDARD Code of practice for the design, installation and maintenance of emergency lighting and power supply systems in buildings

Part 2 : Installation requirements and maintenance procedures

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SINGAPORE STANDARD

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- Part 2 : Installation requirements and maintenance procedures

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

Housing & Development Board Land Transport Authority Maxspid Enterprise Pte Ltd Singapore Civil Defence Force, Fire Safety and Shelter Department TUV SUD PSB Pte Ltd

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Foreword

This Singapore Standard was prepared by the Technical Committee on Lamps and Related Equipment under the purview of the Electrical and Electronic Standards Committee.

The review of CP 19 - Code of practice for the installation and maintenance of emergency lighting and power supply systems in buildings' resulted in the development of SS 563 - Code of practice for the design, installation and maintenance of emergency lighting and power supply systems in buildings' comprising the following parts:

Part 1 : 2010 Emergency lighting

Part 2 : 2010 Installation requirements and maintenance procedures.

Parts 1 and Part 2 of SS 563 replace SS CP 19: 2000 and its amendments.

SS 563 : Part 2 is based on the Australian standards listed below and the materials are reproduced with permission from SAI Global. Australian Standards may be purchased online at http://www.saiglobal.com.

This standard was developed to cover the technical requirements for emergency lighting and exit lighting, as a means of compliance with the requirements of the Code of Practice for Fire Precautions in Buildings.

The aim of this standard is to promote a wider understanding of the different types of emergency lighting systems which may be employed, and to provide guidance on their correct application under varied and different situations. The presence of smoke will have a detrimental effect on the visual conditions provided by emergency lighting. There is no practical way of ensuring that the lighting system will continue to be effective under smoke conditions. Other measures such as building construction and ventilation shall be employed to keep exits as free as possible from smoke.

Attention is drawn to the availability of photoluminescent materials which absorbs light energy when exposed to normal lighting and which, following the loss of normal lighting, progressively release this light energy in the form of a luminous glow for a significant period. The use of such materials would be subject to the approval of the relevant authority.

The standard sets out the rules for a uniform practice in the design and installation of emergency lighting systems. It covers some of the more important aspects of product specification as well as a set of systematic procedures for regular inspection and maintenance recommended to ensure continued compliance with installation requirements.

Significant changes introduced after the review of CP 19 include the following:

- Emergency lighting design requirements are now addressed in Part 1 of this standard.

As amended Dec 17

- The term emergency lighting covered in Part 1 is aligned to the luminaire standard SS IEC 60598-2-22 and includes the following:

- (a) emergency escape lighting;
- (b) illuminated emergency exit signs;
- (c) high risk task area lighting;
- (d) standby lighting.
- Externally illuminated exit signs and exit signs with white opaque background have been removed.
- New low level guidance signs and corresponding viewing distances have been introduced.

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- Duration of operation at the time of commissioning has been revised to 1.5 hour based on the As amended, Aug 13 Aug 13
- Marking requirements of emergency escape luminaires have been revised.

In preparing this standard references were made to the following publications:

- 1. AS 2293 Emergency escape lighting and exit signs for buildings Part 1 : 2005 System design, installation and operation Part 3 : 2005 Emergency escape luminaires and exits signs
- AS/NZS 2293 Emergency evacuation lighting for buildings Part 1 : 1998 System design, installation and operation Part 2 : 1995 Inspection and maintenance Part 3 : 1995 Emergency evacuation lighting for buildings, emergency luminaires and exit signs
- IEC 60364-5-56 Ed. 2 Low voltage electrical installations Part 5-56 Selection and erection of electrical equipment – Safety services

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. 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 for the design, installation and maintenance of emergency lighting and power supply systems in buildings – Part 2 : Installation requirements and maintenance procedures

1 Scope

The objective of this standard is to provide visual conditions necessary to alleviate panic and permit safe evacuation of the building occupants in the event of the failure of normal lighting, and at the same time it prescribes requirements for the equipment and installation methods used to provide the power supply for the emergency lighting.

This standard also prescribes maintenance procedures which are intended to ensure continued compliance with the provisions of the applicable clauses.

The complete emergency lighting system shall be maintained in accordance with the relevant procedures prescribed in this Standard. Maintenance shall only be carried out by persons authorized to do so by the relevant authority, and having qualifications and experience suitable for the work on which they are engaged.

This standard also relates to the provision of emergency lighting in premises as required by the Code of Practice for Fire Precautions in Buildings

NOTE – Should it be necessary to apply the standard to any other type of systems, the exact method in which each provisions is to be met should be the subject of agreement with the relevant authority before installation work is started.

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.

	AS 4029	Stationary batteries – lead acid Part 3 : 1993 Pure lead positive pasted plate type
As amended, Aug 13	BS 5499	Deleted
As amended, Dec 17	BS 5225	Deleted
	BS 6290	Lead-acid stationary cells and batteries – Part 2 : 1999 Specification for the high performance Plante positive type
	IEC 60051	Direct acting indicating analogue electrical measuring instruments and their accessories – Part 1 : 1997 Definitions and general requirements common to all parts Part 2 : 1984 Special requirements for ammeters and voltmeters Part 9 : 1998 Recommended test methods
	IEC 60285 : 1999	Alkaline secondary cells and batteries – Sealed nickel-cadmium cylindrical rechargeable single cells
	IEC 60623 : 1990	Vented nickel-cadmium prismatic rechargeable single cells

IEC 60896-1	Stationary lead-acid batteries – general requirements and methods of test – Part 1 : 1987 Vented types	
IEC 62040	Uninterruptible power systems (UPS) – Part 1 (2008) : General and safety requirements for UPS Part 3 (1999) : Method of specifying the performance and test requirements	
SS IEC 60598	Luminaires – Part 1 : General requirements and tests Part 2-22 : Particular requirements – Luminaires for emergency lighting	As amended, Dec 17
SS 299	Fire resistant cables Part 1: 1998 Performance requirements for cables required to maintain circuit integrity under fire conditions	
SS 508	Graphical symbols – Safety colours and safety signs – Part 1 : 2004 Design principles for safety signs in workplaces and public areas. Part 3 : 2004 Safety signs used in workplaces and public areas Part 5 : Registered safety signs	As amended, Dec 17
SS CP 5 : 1998	Code of practice for electrical installations	

Code of practice for fire precautions in buildings published by the Fire Safety and Shelter Department, Singapore Civil Defence Force