

**SS 650 : Part 1 : 2019**  
(ICS 29.260.10)

**SINGAPORE STANDARD**

**Code of practice for temporary electrical  
installations**

– Part 1 : Construction and building sites

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## SS 650 : Part 1 : 2019

The content of this Singapore Standard was approved on 26 August 2019 by the Electrical and Electronic Standards Committee (EESC) under the purview of the Singapore Standards Council.

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*Energy Market Authority*

*Ministry of Manpower*

*Ngee Ann Polytechnic*

*Singapore Electrical Contractors and Licensed Electrical Workers Association*

*Singapore Electrical Trades Association*

*Singapore Civil Defence Force*

*SP Group*

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## Foreword

This Singapore Standard was prepared by the Working Group on Temporary Electrical Installation set up by the Technical Committee on Power System & Utilisation under the purview of EESC.

This is a revision of CP 88 : Part 1 : 2001 – “Code of practice for temporary electrical installations – Part 1 : Construction and building sites” and has been re-designated as SS 650.

Editorial updates and amendments to the scope and requirements of protection for safety have been made. This includes the list of normative references amended to include the latest SS, IEC or BS accordingly.

SS 650 comprises the following parts under the general title ‘Code of practice for temporary electrical installations’:

Part 1: Construction and building sites

Part 2: Festive lighting, trade-fairs, mini-fairs and exhibition sites

Generally, the risks of electrical shock are high on construction and building sites because of factors such as:

- Possibility of damages to cables and equipment;
- Wide use of hand tools with trailing leads;
- Accessibility of many extraneous-conductive -parts, which cannot practically be bonded;
- Works are generally open to the environmental conditions.

Users are expected to read this part of the Code in conjunction with the general requirements of SS 638 (formerly CP 5), “Code of practice for electrical installations”. Because of variations in local circumstances of construction sites, the requirements of this Code are given in general terms, and will normally need to be supplemented by the advice of skilled persons as defined in 3.11.

It is presupposed that in the course of their work, users will comply with all relevant regulatory and statutory requirements. Some examples of relevant regulations and acts are listed in the Bibliography. The Singapore Standards Council and Enterprise Singapore will not be responsible for identifying all of such legal obligations.

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

BS 4363:1998+A1:2013	Specification for distribution assemblies for reduced low voltage electricity supplies for construction and building sites
BS 4444:1989	Guide to electrical earth monitoring and protective conductor proving
BS 6708:1998	Flexible cables for use at mines and quarries
BS 7375:2010	Code of practice for distribution of electricity on construction and building sites
BS EN 50525-1:2011	Electric cables – Low voltage energy cables of rated voltage up to and including 450/750 V (U0/U) – General requirements
BS EN 50525-2-11:2011	Electric cables – Low voltage energy cables of rated voltage up to and including 450/750 V (U0/U) – Cables for general applications – Flexible cables with thermoplastic PVC insulation

BS EN 50525-2-12:2011	Electric cables – Low voltage energy cables of rated voltage up to and including 450/750 V (U0/U) – Cables for general applications – Cables with thermoplastic PVC insulation for extensible leads
BS EN 50525-2-21:2011	Electric cables – Low voltage energy cables of rated voltage up to and including 450/750 V (U0/U) – Cables for general applications – Flexible cables with crosslinked elastomeric insulation
BS EN 50525-2-71:2011	Electric cables – Low voltage energy cables of rated voltage up to and including 450/750 V (U0/U) – Cables for general applications – Flat tinsel cables (cords) with thermoplastic PVC insulation
IEC 60079-14:2013	Explosive atmospheres – Part 14: Electrical installations design, selection and erection

Permission to reproduce extracts from BS 4444:1989 and BS 7375:2010 was granted by BSI Standards Limited.

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. Where SSs are deemed to be stable, i.e. no foreseeable changes in them, they will be classified as "Mature standards". Mature Standards will not be subject to further review, unless there are requests to review such standards.*
- 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 and the Singapore Standards Council 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. Although care has been taken to draft this standard, users are also advised to ensure that they apply the information after due diligence.*
- 3. Compliance with a SS or TR does not exempt users from any legal obligations.*

## Code of practice for temporary electrical installations Part 1: Construction and building sites

### 1 Scope

This part of the Code of practice deals principally with temporary electrical installations for building operation and work of engineering construction. It covers installations operating at voltages up to 1000 V a.c. in construction and building sites and also installations where separated extra low voltage (SELV) is used. It applies to electrical installations set up for the provision of electricity supply during the execution of the following works:

- (a) New building construction;
- (b) Repair, alteration, extension or demolition of buildings;
- (c) Engineering construction;
- (d) Earthworks;
- (e) Other similar works.

It is presupposed any generator set(s) and associated wiring are in compliance with this Code and applicable statutory and regulatory requirements.

The requirements in this Code are not applicable to installations in site offices, meeting rooms, show flats, canteens, dormitories, toilets, etc. located within construction sites, where the general requirements in the SS 638 shall apply.

Although some temporary installations at these construction and building sites may receive supplies at voltages higher than 1000 V, such parts of the installations are outside the scope of this Code.

This Code also does not cover those aspects of installations in compressed air environment and potentially explosive atmospheres.

NOTE – Refer to SS 586 for diesel signage to be affixed at generating set installed at site.

### 2 Normative references

The following referenced documents are indispensable for the application of this Code. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

SS 97	Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs) – General rules
SS 145 : Part 2	Specification for 13 A plugs, socket-outlets, adaptors and connection units – Part 2: 13 A switched and unswitched socket-outlets
SS 358 : Part 5	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 5: Flexible cables (cords)
SS 551	Code of practice for earthing
SS 555	Protection against lightning
SS 638	Code of practice for electrical installations