

**MAURITIAN
STANDARD**

MS 63:2024

(BS 7671:2018 +
Corrigendum 2018,
Amendment 1:2020,
Corrigendum 2020,
Amendment 2:2022,
Corrigendum 2023)

Fifth edition
2024-07-27

Requirements for Electrical installations

This national standard is the identical implementation of BS 7671:2018 incorporating Corrigendum 2018, Amendment 1:2020, Corrigendum 2020 and Amendment 2:2022 and is adopted with the permission of the British Standards Institution (BSI) with the approval of Institution of Engineering and Technology (IET).

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Mauritius Standards Bureau

Moka



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National foreword

This Mauritian Standard was drawn up by the **Electrical Engineering Standards Committee** through its Subcommittee on Electrical Installations and approved by the **Standards Council** on 19 June 2024 and was notified in the Government Gazette on **27 July 2024***

This Mauritian Standard is an adoption of BS 7671:2018 incorporating Corrigendum 2018, Amendment 1:2020, Corrigendum 2020, Amendment 2:2022 and Corrigendum 2023, Requirements for electrical installations and is implemented with the permission of the British Standards Institution (BSI) with the approval of Institution of Engineering and Technology (IET).

This fifth edition cancels and replaces the fourth edition (MS 63:2020 [BS 7671:2018 incorporating Corrigendum No. 1:2018 and Amendment No 1:2020]), which has been technically revised.

The text of the British Standard has been approved as suitable for publication as a Mauritian Standard. It is presupposed that any existing national regulations take precedence over the standard.

For the purposes of this standard the following changes should be made:

- 'BS 7671' should be replaced by 'MS 63' throughout the document;
- The term "Regulations" in document refers to either:
 - 1) clauses and sub clauses of the document; or
 - 2) corresponding Local Acts / Regulations prevailing in Mauritius.
- Clause 514.12.2 of the document should read as:

"Frequency at which the RCD is to be tested should be as recommended by the manufacturer; or if not specified, to be manually tested (push button) at least once every 3-months."

*** General Notice No. 930 of 2024**

PREVIEW

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Foreword

This British Standard is published under the direction of the British Standards Institution and the Institution of Engineering and Technology (IET).

Following a full review, this Standard replaced the 17th Edition of the IEE Wiring Regulations BS 7671:2008 as amended. Copyright is held jointly by the IET and BSI.

Technical authority for this Standard is vested in the Joint IET/BSI Technical Committee JPEL/64. This Joint Technical Committee, which is responsible for the work previously undertaken by the IEE Wiring Regulations Committee and the BSI Technical Committee PEL/64, meets the constitutional and operational requirements of both parent bodies. JPEL/64 has the responsibility for the content of this British Standard under the joint authority of the IET and the BSI Standards Board.

All references in this text to the IET Wiring Regulations or the Regulation(s), where not otherwise specifically identified, shall be taken to refer to BS 7671:2018 Requirements for Electrical Installations, as amended by Amendment 1:2020 and Amendment 2:2022.

Additions or alterations to regulations owing to the issue of BS 7671:2018:A2:2022 are indicated by a side bar in the margin.

Introduction to BS 7671:2018

BS 7671:2018 *Requirements for Electrical Installations* was issued on 1st July 2018 and is intended to come into effect on 1st January 2019. Installations designed after 31st December 2018 are to comply with BS 7671:2018.

The Regulations apply to the design, erection and verification of electrical installations, also additions and alterations to existing installations. Existing installations that have been installed in accordance with earlier editions of the Regulations may not comply with this edition in every respect. This does not necessarily mean that they are unsafe for continued use or require upgrading.

A summary of the main changes is given below.

NOTE: This is not an exhaustive list.

Part 1 Scope, object and fundamental principles

Regulation 133.1.3 (Selection of equipment) has been modified and now requires certain usage of equipment to be recorded on the appropriate electrical certification specified in Part 6.

Part 2 Definitions

Definitions have been expanded and modified.

Chapter 41 Protection against electric shock

Section 411 contains a number of significant changes. Some of the main ones are mentioned below.

Metallic pipes entering the building having an insulating section at their point of entry need not be connected to the protective equipotential bonding (Regulation 411.3.1.2).

The maximum disconnection times stated in Table 41.1 now apply to final circuits rated up to 63 A with one or more socket-outlets and final circuits rated up to 32 A supplying only fixed connected current-using equipment (Regulation 411.3.2.2).

Regulation 411.3.3 has been revised and now applies to socket-outlets with a rated current not exceeding 32 A. There is an exception to omit RCD protection where, other than for a dwelling, a documented risk assessment determines that RCD protection is not necessary.

A new Regulation 411.3.4 requires that, within domestic (household) premises, additional protection by an RCD with a rated residual operating current not exceeding 30 mA shall be provided for AC final circuits supplying luminaires.

Regulation 411.4.3 has an addition that states that no switching or isolating device shall be inserted in a PEN conductor.

Regulations 411.4.4 and 411.4.5 have been redrafted.

The regulations concerning IT systems (411.6) have been reorganized. Regulations 411.6.3.1 and 411.6.3.2 have been deleted and 411.6.4 redrafted and a new Regulation 411.6.5 inserted.

A new Regulation group (419) has been inserted where automatic disconnection according to Regulation 411.3.2 is not feasible, such as electronic equipment with limited short-circuit current.

Chapter 42 Protection against thermal effects

A new Regulation 421.1.7 has been introduced recommending the installation of arc fault detection devices (AFDDs) to mitigate the risk of fire in AC final circuits of a fixed installation due to the effects of arc fault currents.

Regulation 422.2.1 has been redrafted. Reference to conditions BD2, BD3 and BD4 has been deleted. A note has been added stating that cables need to satisfy the requirements of the CPR in respect of their reaction to fire and making reference to Appendix 2, item 17. Requirements have also been included for cables that are supplying safety circuits.

Chapter 44 Protection against voltage disturbances and electromagnetic disturbances

Section 443, which deals with protection against overvoltages of atmospheric origin or due to switching, has been redrafted.

The AQ criteria (conditions of external influence for lightning) for determining if protection against transient overvoltages is needed are no longer included. Instead, protection against transient overvoltages has to be provided where the consequence caused by overvoltage (see Regulation 443.4):

- (i) could result in serious injury to, or loss of, human life, or
- (ii) could result in interruption of public services/or damage to and cultural heritage, or
- (iii) could result in interruption of commercial or industrial activity, or
- (iv) could affect a large number of co-located individuals.

For all other cases, a risk assessment has to be performed in order to determine if protection against transient overvoltage is required.

There is an exception not to provide protection for single dwelling units in certain situations.

Chapter 46 Isolation and switching

A new Chapter 46 has been introduced. This deals with non-automatic local and remote isolation and switching measures for the prevention or removal of dangers associated with electrical installations or electrically powered equipment. Also, switching for the control of circuits or equipment. Where electrically powered equipment is within the scope of BS EN 60204, only the requirements of that standard apply.

Chapter 52 Selection and erection of wiring systems

Regulation 521.10.202, which gives requirements for the methods of support of wiring systems, has replaced Regulation 521.11.201. This is a significant change. Regulation 521.10.202 requires cables to be adequately supported against their premature collapse in the event of a fire and applies throughout the installation, not just in escape routes as previously.

Regulation 527.1.3 has also been modified, and a note added stating that cables also need to satisfy the requirements of the CPR in respect of their reaction to fire.

Chapter 53 Protection, isolation, switching, control and monitoring

This chapter has been completely revised and deals with general requirements for protection, isolation, switching, control and monitoring and with the requirements for selection and erection of the devices provided to fulfil such functions.

Section 534 Devices for protection against overvoltage

This section focuses mainly on the requirements for the selection and erection of SPDs for protection against transient overvoltages where required by Section 443, the BS EN 62305 series, or as otherwise stated. Section 534 has been completely revised. The most significant technical change refers to the selection requirements for the voltage protection level.

Chapter 54 Earthing arrangements and protective conductors

Two new regulations (542.2.3 and 542.2.8) have been introduced concerning earth electrodes.

Chapter 55 Other equipment

Regulation 550.1 introduces a new scope.

New Regulation 559.10 refers to ground-recessed luminaires, the selection and erection of which shall take account of the guidance given in Table A.1 of BS EN 60598-2-13.

Part 6 Inspection and testing

Part 6 has been completely restructured, including the regulation numbering to align with the CENELEC standard. Chapters 61, 62 and 63 have been deleted and their content now forms two new Chapters 64 and 65.

Section 704 Construction and demolition site installations

This section contains a number of small changes, including requirements for external influences (Regulation 704.512.2), and a modification to Regulation 704.410.3.6 to include the non-use of the protective measure of electrical separation.

Section 708 Electrical installations in caravan/camping parks and similar locations

This section contains a number of changes including requirements for socket-outlets, RCD protection, and operational conditions and external influences.

Section 710 Medical locations

This section contains a number of small changes including the removal of Table 710, and changes to Regulations 710.415.2.1 to 710.415.2.3 concerning equipotential bonding. In addition, a new Regulation 710.421.1.201 states requirements regarding the installation of AFDDs.

Section 715 Extra-low voltage lighting installations

This section contains only minor changes including modifications to Regulation 715.524.201.

Section 721 Electrical installations in caravans and motor caravans

This section contains a number of changes to the requirements concerning electrical separation, RCDs, proximity to non-electrical services and protective bonding conductors.

Section 722 Electric vehicle charging installations

This section contains significant changes to Regulation 722.411.4.1 concerning the use of a PME supply. The exception concerning reasonably practicable has been deleted. Changes have also been made to requirements for external influences, RCDs, socket-outlets and connectors.

Section 730 Onshore units of electrical shore connections for inland navigation vessels

This is an entirely new section. Section 730 applies to onshore installations dedicated to the supply of inland navigation vessels for commercial and administrative purposes, berthed in ports and berths. Most, if not all, of the measures used to reduce the risks in marinas apply equally to electrical shore connections for inland navigation vessels. One of the major differences between supplies to vessels in a typical marina and electrical shore connections for inland navigation vessels is the size of the supply needed.

Section 753 Heating cables and embedded heating systems

This retitled section has been completely revised. The scope of Section 753 has been extended to apply to embedded electric heating systems for surface heating. The requirements also apply to electric heating systems for de-icing, frost prevention and similar applications, and cover both indoor and outdoor systems. Heating systems for industrial and commercial applications complying with BS EN 60519, BS EN 62395 and BS EN 60079 are not covered.

Appendices

The following main changes have been made within the appendices:

Appendix 1 British Standards to which reference is made in the Regulations has been updated, as necessary.

Appendix 3 Time/current characteristics of overcurrent protective devices and RCDs

The previous content of Appendix 14 concerning earth fault loop impedance has been moved into Appendix 3.

Appendix 6 Model forms for certification and reporting

This appendix includes minor changes to the certificates, changes to the inspections (for new installation work only) for domestic and similar premises with up to 100 A supply, and examples of items requiring inspection for an electrical installation condition report.

Appendix 8 Current-carrying capacity and voltage drop for busbar trunking and powertrack systems

This appendix includes changes regarding rating factors for current-carrying capacity.

Appendix 14 Determination of prospective fault current

As stated earlier, the content of Appendix 14 concerning earth fault loop impedance has been moved into Appendix 3. Appendix 14 now contains information on the determination of prospective fault current.

Appendix 17 Energy efficiency

This is a new appendix that provides recommendations for the design and erection of electrical installations, including installations having local production and storage of energy, for optimizing the overall efficient use of electricity.

The recommendations within the scope of this appendix apply for new electrical installations and modification of existing electrical installations. Much of this appendix will not apply to domestic and similar installations.

It is intended that this appendix will be developed into Part 8 of BS 7671 in a future amendment.

Introduction to Amendment 1:2020

Amendment 1:2020 to BS 7671:2018 *Requirements for Electrical Installations* was issued on 1st February 2020 and may be implemented immediately. Electrical installations falling within the scope of Section 722, the erection of which is commenced after 31st July 2020, are to comply with BS 7671:2018 incorporating Amendment 1:2020.

Amendment 1:2020 amends Section 722 Electric Vehicle Charging Installations.

Part 2

Definitions relating to Section 722 have been included.

Section 700 General

This overarching section explains the need for Part 7.

Section 722

Electric vehicle charging installations, Section 722 amended, based on HD 60364-7-722:2018.

Section 722 applies to electric vehicle charging installations. It modifies the general requirements for protection against electric shock, and includes specific requirements with regard to PME systems, socket-outlets and connectors, external influences, isolation and switching and RCD protection.

Regulation 722.411.4.1 adds indent (iv) which adds an alternative solution requirement for charging installations.

The requirements of this section do not apply to wireless charging, such as inductive charging.

Appendix 1

References to British Standards for Section 722 have been included.

Index

Entries for Section 722 have been included.

Introduction to Amendment 2:2022

BS 7671:2018+A2:2022 *Requirements for Electrical Installations* was issued on 28th March 2022 and may be implemented immediately. BS 7671:2018+A1:2020 remains current and will be withdrawn on 27th September 2022.

The Regulations apply to the design, erection and verification of electrical installations, also additions and alterations to existing installations. Existing installations that have been installed in accordance with earlier editions of the Regulations may not comply with this edition in every respect. This does not necessarily mean that they are unsafe for continued use or require upgrading.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application. Compliance with a British Standard cannot confer immunity from legal obligations.

NOTE 1: Completion of an electrical installation designed to the withdrawn standard can be subject to the contractual agreement between all parties involved.

NOTE 2: BSI publishes information on the uses of withdrawn British Standards.

A summary of the main changes is given below.

NOTE 3: This is not an exhaustive list.

Part 1 Scope, Object and Fundamental principles

Minor changes have been made including reference to prosumers electrical installations and installing fibre optic cables.

Part 2 Definitions

Definitions have been expanded and modified.

Chapter 41 Protection against electric shock

Section 411 contains a number of significant changes. Some of the main changes are mentioned below.

Regulation 411.3.1.2 has been redrafted. The regulation now requires that in each consumer's installation within a building extraneous-conductive-parts that are liable to introduce a dangerous potential difference be connected to the main earthing terminal.

A note has been added clarifying that where non-metallic pipes, e.g. plastic, enter the building and are then connected to metallic pipes within the building, the metallic pipes within the building do not normally require protective bonding as they are unlikely to be extraneous-conductive-parts. Reference to insulating sections has been removed.

Regulation 411.3.3 has been redrafted and now has three indents. There is still an exception to omit RCD protection where, other than BA1, BA3 or children (BA2, BA3) and mobile equipment (not exceeding 32 A) for use outdoors, a suitably documented risk assessment determines that RCD protection is not necessary.

Regulation 411.4.2 now recommends an additional connection to Earth, by means of an earth electrode in accordance with Chapter 54, is made to the main earthing terminal.

Chapter 42 Protection against thermal effects

Regulation 421.1.7 has been redrafted. It is now a requirement to protect final circuits supplying socket-outlets with a rated current not exceeding 32 A using arc fault detection devices (AFDD) in Higher Risk Residential Buildings, Houses in Multiple Occupation, Purpose-built student accommodation and Care homes. For all other premises, the regulation recommends AFDDs for single-phase AC final circuits supplying socket-outlets not exceeding 32 A. The use of AFDDs does not obviate the need to apply one or more measures provided in other clauses in this standard.

Regulation 422.1 (precautions where particular risks of fire exist) now introduces requirements for the fire safety design of the building(s) to be documented. Also requirements have been added where cables should have an improved fire performance.

Regulation 422.2 now introduces separate requirements for escape routes and a new concept of 'protected escape routes'. Reference to conditions BD2, BD3 and BD4 have been deleted.

Chapter 44 Protection against voltage disturbances and electromagnetic disturbances

Regulation 443.4 for determining if protection against transient overvoltages is needed has been redrafted. Regulation 443.4.1 now requires protection against transient overvoltages to be provided where the consequence caused by the overvoltage could result in:

- (i) serious injury to, or loss of, human life
- (ii) failure of a safety service, as defined in Part 2
- (iii) significant financial or data loss.

For all other cases, protection against transient overvoltages shall be provided unless the owner of the installation declares it is not required due to any loss or damage being tolerable and they accept the risk of damage to equipment and any consequential loss.

Regulation 443.4.2 requires protection against overvoltages to be considered in the case of equipment likely to produce switching overvoltages or disturbances and gives conditions.

Regulation 443.5 (Risk assessment method) has been deleted and Annex A443 (examples of calculated risk level CRL for use of SPDs) has also been deleted.

Section 514 Identification and notices

Section 514 contains a number of significant changes (including illustrations of notices which have been removed and examples are provided in Appendix 11). Some of the main changes are mentioned below.

Table 51 has been modified slightly to take into account changes of colour identification for DC and abbreviations have been added.

Regulation 514.9.1 now contains an exception for domestic (household) premises.

Regulation 514.9.2 has been introduced to advise that all diagrams, charts, and information or instruction notices comply with the applicable standards specified.

Regulation 514.12 (Notices: periodic inspection and testing) now contains an exception for domestic (household) premises in certain situations.

Regulation 514.12.2, concerning the RCD notice, has been modified and now contains an exception for domestic (household) premises in certain situations.

Regulation 514.14 concerning non-standard colours has been deleted.

A new Regulation 514.16.1 has been introduced requiring a label to indicate the presence of SPDs. However, there is an exception for domestic (household) premises or similar.

Chapter 53 Protection, isolation, switching, control and monitoring

Regulation 531.3.2 indent (ii) highlights the use of RCBOs for individual final circuits in residential premises to minimise unwanted tripping.

Regulation 531.3.3 now states that RCD Type AC shall only be used to serve fixed equipment, where it is known that the load current contains no DC components.

Chapter 54 Earthing arrangements and protective conductors

Modifications have been made to Regulation Group 543.7 concerning earthing requirements for the installation of equipment having high protective conductor currents.

Regulation 544.1.1 concerning main protective bonding conductors has also been revised.

Chapter 55 Other equipment

551.7 Additional requirements have been added for installations where the generating set or sets may operate in parallel with other sources including systems for distribution of electricity to the public.

551.7.2 includes additional conditions.

554.4 Heating conductors and cables Regulations 554.4.2, 554.4.3, and 554.4.4 have been deleted.

Chapter 64 Initial verification

Regulation Group 643.3 has been redrafted. The requirements for testing insulation resistance where equipment is likely to influence the verification test or be damaged has been clarified and reference is made to a 250 V DC test following the connection of equipment.

The requirements for RCD testing have been changed and Table 3A (Time/current performance criteria for RCDs) in Appendix 3 has been deleted. Regardless of RCD Type, an alternating current test at rated residual operating current ($I_{\Delta n}$) is used to verify the effectiveness.

Section 702 Swimming pools and other basins

Regulation, 702.414.3, concerning SELV and PELV, has been introduced.

Section 703 Rooms and cabins containing sauna heaters

Regulation 703.414.3, concerning SELV and PELV, has been introduced.

Section 704 Construction and demolition site installations

Regulation 704.511.1 includes changes to plugs and socket-outlet requirements. Changes have also been made to requirements for wiring systems (704.52) and the requirements for devices for isolation have been redrafted (704.537).

Section 706 Conducting locations with restricted movement

The requirements for protection against electric shock have been completely redrafted. A new Regulation 706.415, requirements for additional protection, has also been introduced.

Section 710 Medical locations

Changes include requirements concerning socket-outlet circuits in the medical IT systems and minor changes to requirements concerning luminaires and lighting installations. Also, requirements concerning diagrams and documentation have been changed. Requirements for IT systems have also been redrafted. Changes also include requirements for fault protection and requirements for protective equipotential bonding.

Section 711 Exhibitions, shows and stands

A new Regulation 711.410.3.101 has been introduced. It sets out the requirements for all final circuits, other than those of safety services, having a rated current not exceeding 32 A supplying socket-outlets or handheld electrical equipment, and all final circuits for lighting to use either automatic disconnection of supply (with additional protection by means of an ≤ 30 mA RCD), SELV or PELV, or electrical separation. Regulation 711.42 concerning protection against thermal effects has been deleted. Requirements for isolation and switching have been redrafted. In addition, the regulations covering luminaires and lighting installations have been redrafted.

Section 712 Solar photovoltaic (PV) power supply systems

The technical content of this section has been extensively revised and expanded. Requirements of this section now apply to:

- (i) PV installations not connected to a system for distribution of electricity to the public,
- (ii) PV installations in parallel with a system for distribution of electricity to the public,
- (iii) PV installations as an alternative to a system for distribution of electricity to the public.

Section 714 Outdoor lighting installations

This section includes changes to automatic disconnection of supply and additional protection.

Section 717 Mobile or transportable units

Regulation 717.411.4 has been expanded to take account of PME.

Section 722 Electric vehicle charging installations

This section incorporates BS 7671:2018+A1:2020 together with other changes, such as, taking account of prosumer's electrical installations (722.826.3.201). Indent (i) of Regulation 722.411.4.1 has been deleted, also changes have been made to the notes in particular the one concerning where equipment to be used is not covered by a British or Harmonized Standard. In addition, the Annex to 722 has been redrafted and includes guidance on indent (iii) of Regulation 722.411.4.1.

Section 753 Heating cables and embedded heating systems

Changes include the addition of new regulations (relocated from Chapter 53) covering impact and the installation of heating cables.

Chapter 82 Prosumer's low-voltage electrical installations

This is an entirely new chapter. Historically, utility companies have managed the public transmission and distribution network from the point of view of having central production adapted to demand variation. The objective of this chapter is to provide requirements, such that, low-voltage electrical installations are compatible with the current and future ways to deliver safely the electrical energy to current-using equipment either from the public network or from other local sources.

Chapter 82 provides additional requirements, measures and recommendations for design, erection and verification of all types of low voltage electrical installations. This includes local production and/or storage of energy in order to achieve compatibility with existing and future ways to deliver electrical energy to current-using equipment or to the public network by means of local sources. Such electrical installations are designated as Prosumer's Electrical Installations (PEIs).

Appendices

The following main changes have been made within the Appendices:

Appendix 3 Table 3A, covering the tripping times of RCDs, has been deleted.

Appendix 4 includes minor changes concerning a cable surrounded by thermal insulation.

Appendix 6 Model forms for certification and reporting

Minor changes have been made to the model forms and guidance for recipients. These include the addition of fields for recording the details of SPDs and AFDDs.

The schedule of inspections has been simplified for initial verification. A new example checklist of items requiring inspection during initial verification has been added to Appendix 6 but is not required to be provided with the certificate.

The single page generic schedule of test results used for EIC and EICR has been redrafted. There is now a separate page for the schedule of circuit details and a separate page for the schedule of test results.

Appendix 7 Deleted by BS 7671:2018+A2:2022

Appendix 11 Warning and user instruction labels

This is a new appendix that provides guidance for the types of safety signs, warning signs and instructions required to be applied to electrical installations.

Appendix 13 Escape routes and fire protection

The previous content of Appendix 13 concerning methods for measuring the insulation resistance/impedance of floors and walls to Earth has been removed and replaced by guidance on escape routes and fire protection. The new content of Appendix 13 provides detailed guidance on protected escape routes in order to afford a safe passage through the building to an exit.

Appendix 17 Energy efficiency

This appendix includes changes to the scope to cover dwellings and reference to the Building Regulations, changes to user decisions, also new design recommendations, new information on determination of meshes, new information on user requirements, new guidance covering impacts on the design of an installation, and new guidance on periodic assessment.

Editions

The following editions have been published:

FIRST EDITION	Entitled 'Rules and Regulations for the Prevention of Fire Risks Arising from Electric Lighting'. Issued in 1882.
SECOND EDITION	Issued in 1888.
THIRD EDITION	Entitled 'General Rules recommended for Wiring for the Supply of Electrical Energy'. Issued in 1897.
FOURTH EDITION	Issued in 1903.
FIFTH EDITION	Entitled 'Wiring Rules'. Issued in 1907.
SIXTH EDITION	Issued in 1911.
SEVENTH EDITION	Issued in 1916.
EIGHTH EDITION	Entitled 'Regulations for the Electrical Equipment of Buildings'. Issued in 1924.
NINTH EDITION	Issued in 1927.
TENTH EDITION	Issued in 1934.
ELEVENTH EDITION	Issued in 1939. Revised, issued in 1943. Reprinted with minor Amendments, 1945. Supplement issued, 1946. Revised Section 8 issued, 1948.
TWELFTH EDITION	Issued in 1950. Supplement issued, 1954.
THIRTEENTH EDITION	Issued in 1955. Reprinted 1958, 1961, 1962 and 1964.
FOURTEENTH EDITION	Issued in 1966. Reprinted incorporating Amendments, 1968. Reprinted incorporating Amendments, 1969. Supplement on use in metric terms issued, 1969. Amendments issued, 1970. Reprinted in metric units incorporating Amendments, 1970. Reprinted 1972. Reprinted 1973. Amendments issued, 1974. Reprinted incorporating Amendments, 1974. Amendments issued, 1976. Reprinted incorporating Amendments, 1976.
FIFTEENTH EDITION	Entitled 'Regulations for Electrical Installations'. Issued in 1981. (Red Cover) Amendments issued, 1 January 1983. Reprinted incorporating Amendments, 1983. (Green Cover) Amendments issued, 1 May 1984. Reprinted incorporating Amendments, 1984. (Yellow Cover) Amendments issued, 1 January 1985. Amendments issued, 1 January 1986. Reprinted incorporating Amendments, 1986. (Blue Cover) Amendments issued, 12 June 1987. Reprinted incorporating Amendments, 1987. (Brown Cover) Reprinted with minor corrections, 1988. (Brown Cover)
SIXTEENTH EDITION	Issued in 1991. (Red Cover) Reprinted with minor corrections, 1992. (Red Cover) Entitled and reprinted as 'Requirements for Electrical Installations BS 7671:1992'. (Red Cover) Amendment No 1 issued, December 1994. Reprinted incorporating Amendment No 1, 1994. (Green Cover) Amendment No 2 issued, December 1997. Reprinted incorporating Amendment No 2, 1997. (Yellow Cover) Amendment No 3 issued, April 2000. BS 7671:2001 issued, June 2001. (Blue Cover) Amendment No 1 issued, February 2002. Amendment No 2 issued, March 2004. Reprinted incorporating Amendments 1 and 2, 2004. (Brown Cover)
SEVENTEENTH EDITION	BS 7671:2008 issued, January 2008. (Red Cover) Reprinted incorporating Amendment No 1, 2011. (Green Cover) Amendment 2 issued, Aug 2013. Reprinted incorporating Amendments 2 and 3, 2015. (Yellow Cover)
EIGHTEENTH EDITION	BS 7671:2018 issued, July 2018. (Blue Cover) Amendment 1 issued, February 2020 (electronic) Amendment 2 issued, March 2022. (Brown Cover)

Joint IET/BSI Technical Committee JPEL/64 CONSTITUTION

as at August 2021

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Eur Ing P Sayer CEng FIET GCGI (Deputy Chairman)

for IET

Eur Ing G Kenyon BEng(Hons) CEng MIET TechIOSH (Chair – JPEL/D/64)

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Preface

BS 7671:2018, Requirements for Electrical Installations, takes account of the technical substance of agreements reached at CENELEC level in Harmonized Documents (HD). Where no CENELEC HD exists, IEC level documents are taken into account. In particular, the technical intent of the following CENELEC HDs and IEC documents is included:

HD or IEC	Year	Document reference	BS 7671
HD 60364-1	2008 (2017)	Fundamental principles, assessment of general ..., definitions	Parts 1, 2, 3
HD 60364-4-41	2007 (2017)	Protection against electric shock	Chapter 41
HD 60364-4-42	2011 (2015)	Protection against thermal effects	Chapter 42
HD 60364-4-43	2010	Protection against overcurrent	Chapter 43
IEC 60364-4-44	2007 (2015)	Protection against voltage disturbances and electromagnetic disturbances	Section 440
HD 60364-4-442	2012	Protection of low-voltage installations against temporary overvoltages due to earth faults in the high-voltage system and due to faults in the low voltage system	Section 442
HD 60364-4-443	2016	Protection against transient overvoltages of atmospheric origin or due to switching	Section 443
HD 60364-4-444	2010 (2012)	Protection against voltage and electromagnetic disturbances	Section 444
HD 60364-4-46	2016 (2017)	Isolation and switching	Chapter 46
HD 60364-5-51	2009 (2017)	Selection and erection of electrical equipment - Common rules	Chapter 51
HD 60364-5-52	2011 (2017)	Selection and erection of electrical equipment - Wiring systems	Chapter 52
HD 60364-5-53	2015 (2017)	Selection and erection of electrical equipment - Switchgear and controlgear	Chapter 53
HD 60364-5-534	2016	Devices for protection against transient overvoltages	Section 534
HD 60364-5-54	2011 (2017)	Earthing arrangements and protective conductors	Chapter 54
HD 60364-5-551	2010 (2016)	Low-voltage generating sets	Section 551
HD 60364-5-557	2013 (2016)	Auxiliary circuits	Section 557
HD 60364-5-559	2012 (2017)	Luminaires and lighting installations	Section 559
HD 60364-6-56	2018	Safety services	Chapter 56
HD 60364-6	2016 (2017)	Verification	Part 6
HD 60364-7-701	2007 (2017)	Locations containing a bath or shower	Section 701
HD 60364-7-702	2010	Swimming pools and fountains	Section 702
HD 60364-7-703	2005	Rooms and cabins containing sauna heaters	Section 703
HD 60364-7-704	2018	Construction and demolition site installations	Section 704
HD 60364-7-705	2007 (2017)	Agricultural and horticultural premises	Section 705
HD 60364-7-706	2007 (2020)	Conducting locations with restricted movement	Section 706
HD 60364-7-708	2017	Caravan parks, camping parks and similar locations	Section 708
HD 60364-7-709	2009 (2019)	Marinas and similar locations	Section 709
HD 60364-7-710	2012 (2013)	Medical locations	Section 710
HD 60364-7-711	2019	Exhibitions, shows and stands	Section 711
HD 60364-7-712	2016	Photovoltaic (PV) systems	Section 712
HD 60364-7-714	2012	External lighting installations	Section 714
HD 60364-7-715	2012 (2017)	Extra-low-voltage lighting installations	Section 715
HD 60364-7-717	2010 (2014)	Mobile or transportable units	Section 717
IEC 60364-7-721	2019	Electrical installations in caravans and motor caravans	Section 721
HD 60364-7-722	2018	Supplies for electric vehicles	Section 722
HD 60364-7-729	2009 (2017)	Operating or maintenance gangways	Section 729
HD 60364-7-730	2015	Onshore units of electrical shore connections for inland navigation vessels	Section 730
HD 60364-7-740	2006 (2017)	Temporary electrical installations for structures, amusement devices and booths at fairgrounds, amusement parks and circuses	Section 740
HD 60364-7-753	2014 (2014)	Heating cables and embedded heating systems	Section 753
HD 60364-8-1	2019 (2019)	Functional aspects - energy efficiency	Appx 17
HD 60364-8-2	2018	Prosumer's low-voltage electrical installations	Chapter 82

The dates in brackets refer to the year of issue of amendments to the documents.

Where the above documents contain UK special national conditions, those conditions have been incorporated within BS 7671. If BS 7671 is applied in other countries the above documents should be consulted to confirm the status of a particular regulation.

BS 7671 will continue to be amended from time to time to take account of the publication of new or amended CENELEC and IEC standards. The opportunity has been taken to revise regulations that experience has shown require clarification or to allow for new technology and methods.

Reference is made throughout BS 7671 to publications of the British Standards Institution, both specifications and codes of practice. Appendix 1 lists these publications and gives their full titles whereas throughout BS 7671 they are referred to only by their numbers.

Where reference is made in BS 7671 to a British Standard which takes account of a CENELEC Harmonization Document, European Norm (EN) or IEC standard, it is understood that the reference also relates to any European national standard similarly derived from the CENELEC standard, although account needs to be taken of any national exemptions.

PREVIEW

Note by the Health and Safety Executive

The Health and Safety Executive (HSE) welcomes the publication of BS 7671:2018, Requirements for Electrical Installations, IET Wiring Regulations 18th Edition and its updating with the second amendment, published in 2022. BS 7671 and the IET/IEE Wiring Regulations have been extensively referred to in HSE guidance over the years. Installations which conform to the standards laid down in BS 7671:2018+A2:2022 are regarded by HSE as likely to achieve conformity with the relevant parts of the Electricity at Work Regulations 1989. Installations to which BS 7671 is relevant may have been designed and installed in accordance with an earlier edition, now superseded but then current. That, in itself, would not mean that the installation would fail to comply with the Electricity at Work Regulations, 1989.

Notes on the plan of the 18th Edition

This Edition is based on the plan agreed internationally for the arrangement of safety rules for electrical installations.

The regulation numbering follows the pattern and corresponding references of IEC HD 60364 series. The numbering does not, therefore, necessarily follow sequentially. The numbering system used in Part 7 is explained in Section 700.

In the numbering system used, the first digit signifies a Part, the second digit a Chapter, the third digit a Section and the subsequent digits the Regulation number. For example, Section number 413 is made up as follows:

PART 4 - PROTECTION FOR SAFETY

Chapter 41 (first chapter of Part 4) - PROTECTION AGAINST ELECTRIC SHOCK

Section 413 (third section of Chapter 41) - PROTECTIVE MEASURE: ELECTRICAL SEPARATION

Part 1 sets out the scope, object and fundamental principles.

Part 2 defines the sense in which certain terms are used throughout the Regulations, and provides a list of symbols used and a list of abbreviations used in the Standard.

The subjects of the subsequent parts are as indicated below:

Part	Subject
Part 3	Identification of the characteristics of the installation that will need to be taken into account in choosing and applying the requirements of the subsequent Parts. These characteristics may vary from one part of an installation to another and should be assessed for each location to be served by the installation.
Part 4	Description of the measures that are available for the protection of persons, livestock and property, and against the hazards that may arise from the use of electricity.
Part 5	Precautions to be taken in the selection and erection of the equipment of the installation.
Part 6	Inspection and testing.
Part 7	Special installations or locations - particular requirements.
Part 8	Functional requirements

The sequence of the plan should be followed in considering the application of any particular requirement of the Regulations. The general index provides a ready reference to particular regulations by subject, but in applying any one regulation the requirements of related regulations should be borne in mind. Cross-references are provided, and the index is arranged to facilitate this.

In many cases, a group of associated regulations is covered by a side heading which is identified by a two-part number, e.g. 544.2. Throughout the Regulations where reference is made to such a two-part number, that reference is to be taken to include all the individual regulation numbers which are covered by that side heading and include that two-part number.

The Regulations use the IEC decimal point numbering system to make it easier to embody future changes and additions resulting from ongoing international standards work within IEC and CENELEC. In order to identify and accommodate future IEC changes some regulations carry either a 100 or 200 number where 100 numbers represent CENELEC Harmonization Document reference numbers and 200 numbers represent UK-only regulations. Some regulations have not been 'updated' to indicate 100 and 200 numbers; that will only be done when those regulations require a significant rewrite.

Guidance on the language used within BS 7671

To help all users of BS 7671, the following definitions apply specifically to the language used within this Standard:

Guidance. Element containing informative text.

Informative annex. Annex that contains additional recommendations, guidance or statements intended to assist the understanding or use of the document.

Informative element:

- **Preliminary informative element.** Element that identifies the document, introduces its content and explains its background, its development and its relationship with other documents.
- **Supplementary informative element.** Element that provides additional information intended to assist the understanding or use of the document.

Normative annex. Annex that contains requirements or procedural instructions additional to those in the body of the document.

Normative element. Element that describes the scope of the document or sets out requirements.

Note. Element containing informative text.

Requirement. Expression in the content of a document conveying criteria to be fulfilled if compliance with the document is to be claimed and from which no deviation is permitted.

Recommendation. Expression in the content of a document conveying that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others.

The following table describes verbal forms which may be used to express normative and informative elements:

Verbal forms used in BS 7671		
Implication	Verbal form	Typical context
Requirement	Shall	Normative element
Recommendation	Should	Informative element
Permission	May	Informative element
Possibility and capability	Can	Informative element
Possibility	Might	Informative element
Description	Is	Informative element

The content of this table is based on *Rules for the structure and drafting of UK standards*, second edition published April 2017, published by BSI Standards Ltd.

PART 1

SCOPE, OBJECT AND FUNDAMENTAL PRINCIPLES

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PART 1

SCOPE, OBJECT AND FUNDAMENTAL PRINCIPLES

CHAPTER 11

SCOPE

110.1 GENERAL

110.1.1 The Regulations apply to the design, erection and verification of electrical installations such as those of:

- (i) residential premises
- (ii) commercial premises
- (iii) public premises
- (iv) industrial premises
- (v) prefabricated buildings
- (vi) low voltage generating sets
- (vii) highway equipment and street furniture
- (viii) locations containing a bath or shower
- (ix) swimming pools and other basins
- (x) rooms and cabins containing sauna heaters
- (xi) construction and demolition sites
- (xii) agricultural and horticultural premises
- (xiii) conducting locations with restricted movement
- (xiv) caravan / camping parks and similar locations
- (xv) marinas and similar locations
- (xvi) medical locations
- (xvii) exhibitions, shows and stands
- (xviii) solar photovoltaic (PV) power supply systems
- (xix) outdoor lighting
- (xx) extra-low voltage lighting
- (xxi) mobile or transportable units
- (xxii) caravans and motor caravans
- (xxiii) electric vehicle charging
- (xxiv) operating and maintenance gangways
- (xxv) temporary installations for structures, amusement devices and booths at fairgrounds, amusement parks and circuses including professional stage and broadcast applications
- (xxvi) floor and ceiling heating systems
- (xxvii) onshore units of electrical shore connections for inland navigation vessels.

NOTE: 'Premises' covers the land and all facilities including buildings belonging to it.

110.1.2 The Regulations include requirements for:

- (i) circuits supplied at nominal voltages up to and including 1000 V AC or 1500 V DC. For AC, the preferred frequencies which are taken into account in BS 7671 are 50 Hz, 60 Hz and 400 Hz. The use of other frequencies for special purposes is not excluded
- (ii) circuits, other than the internal wiring of equipment, operating at voltages exceeding 1000 V and derived from an installation having a voltage not exceeding 1000 V AC, e.g. discharge lighting, electrostatic precipitators
- (iii) wiring systems and cables not specifically covered by the standards for appliances
- (iv) prosumer's low voltage electrical installations (PEI) including those located external to buildings
- (v) all consumer installations external to buildings
- (vi) fixed wiring for information and communication technology, signalling, control and the like, including installation and support of fibre optic cables (excluding internal wiring of equipment)
- (vii) additions and alterations to installations and also parts of the existing installation affected by an addition or alteration.