

BRITISH STANDARD

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Draft for Public Comment

BS 7671:2008

Amendment No 1

# Requirements for Electrical Installations

IET Wiring Regulations  
Seventeenth Edition

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## Introduction to the draft for public comment (DPC)

This draft for public comment on BS 7671:2008 Amendment No 1 is based on IEC/CENELEC standards. The UK's ability to change the requirements is limited, however within that constraint comments are welcome.

All comments must be received by the IET before 6th September 2010 and must be made on the official form which can be found on the IET website at [www.theiet.org/wiringregs](http://www.theiet.org/wiringregs). Copies of this DPC may be obtained from: The IET, PO Box 96 STEVENAGE SG1 2SD, UK Tel: +44 (0) 1438 767 328 Email: [sales@theiet.org](mailto:sales@theiet.org)

The actual Amendment No 1 has an expected publication date of July 2011. It will contain updated text for the following, which are not included in this DPC:

- (i) Foreword and Introduction to BS 7671:2008
- (ii) Editions
- (iii) Constitution
- (iv) Preface
- (v) Note by the Health and Safety Executive
- (vi) Appendix 1, British Standards to which reference is made in the Regulations
- (vii) Appendix 2, Statutory regulations and associated memoranda
- (viii) Index.

In an attempt to aid understanding:

- (i) **Text that has not been changed is generally not shown**, except where it has been left as an aid to the readers understanding
- (ii) Text that has been deleted has been “stricken through” and added text has been underlined, the change is also marked with a side bar.

Please note that:

- (i) Some trivial editorial changes and cross references have not been marked (so as not to waste commenter's time)
- (ii) In the case of some figures and equations it was clearer to show them crossed out, and then add the new version next to them (but the side bar is still present)
- (iii) In the case of some major additions it was clearer to add them without the underline, however its titles are underlined and have a side bar, so it should be obvious that the text has been added.

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## Introduction to the first amendment

The first amendment to BS 7671:2008 Requirements for Electrical Installations is expected to be published on 1st July 2011 and is intended to come into effect on 1st Jan 2012. Installations designed after 31st Dec 2011 are to comply with BS 7671:2008 incorporating Amendment No 1, 2011.

A summary of the main changes is given below.

**NOTE:** This is not an exhaustive list.

**New numbering system** The 17<sup>th</sup> edition introduced a new 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 accommodate future IEC changes it has been decided to have a 100 numbering system for UK only regulations. This means for example the current regulation 422.3.14 will become 422.3.100 and regulation 422.4.6 will become 422.4.103 etc. This only applies to UK only regulations.

**Part 2** Definitions have been expanded and modified. The system diagrams for TN –C, TN-S, TN-C-S, TT and IT have been deleted.

**Part 3** Assessment of general characteristics, now includes the system diagrams for TN-S, TN-C-S and TT. In addition, diagrams have been included for single-phase 2-wire, single-phase 3-wire, two-phase 3-wire, three-phase 3-wire, three-phase 4 wire a.c. and 2- and 3-wire d.c.

**Chapter 41** Regulation 411.3.3 (c) now permits an exception for minor works where the designer is satisfied that there would be no increased risk from the addition or alteration. In addition Table 41.5 has been modified.

**Chapter 42 and 43** Contain minor changes.

**Chapter 44** Protection against voltage disturbances and electromagnetic disturbances, now includes modifications to Section 443. A number of important notes have been added to Section 443. The section makes reference to Section 534. The user is also made aware that work is currently in progress at IEC level on Section 443.

A new Section 444 has been added, which deals with measures against electromagnetic disturbances. Electromagnetic interference (EMI) may disturb or damage information technology equipment/systems as well as equipment with electronic components or circuits. Currents due to lightning, switching operations, short-circuits and other electromagnetic phenomena may cause overvoltages and electromagnetic interference. Section 444 provides basic requirements and recommendations to enable the avoidance and reduction of electromagnetic disturbances.

**Chapter 51** Common rules, includes a number of changes. The requirements concerning the connection of cables to switchgear in relation to temperature rating have been modified. Orange as a means of identification of an electrical conduit has been deleted. The regulation concerning the warning notice for voltage has been modified.

Regulation 522.6.100 an additional indent is added.

Regulation 522.6.101 now permits an exception for a cable forming part of a SELV or PELV circuit.

Regulation 522.6.102 now permits an exception for minor works where the designer is satisfied that there would be minimal increased risk of damage to the circuit cable due to penetration by screws, nails and the like.

Regulation 522.6.103 now permits an exception for minor works that do not involve a new partition or a cable passing through a metal part of a partition, where the designer is satisfied that there would be minimal increased risk of damage to the circuit cable due to penetration by screws, nails and the like. Also, an additional indent is added.

**Chapter 53** Protection, isolation, switching, control and monitoring, now includes a new Section 534 which deals with the installation of surge protective devices (SPD). The requirements of Section 534 are for the selection and erection of SPDs for electrical installations of buildings in order to limit transient overvoltages of atmospheric origin transmitted via the supply distribution system and against switching overvoltages. The requirements are also intended to protect against transient overvoltages caused by direct lightning strikes or lightning strikes in the vicinity of buildings protected by a lightning protection system. The requirements do not take into account surge protective components, which may be incorporated in the appliances connected to the installation.

**Chapter 56** Safety services, incorporates editorial changes, updated standards, notes added, and requirements for switchgear and control gear for use on a.c. and d.c. added.

**Part 6** Inspection and testing. Mainly editorial changes to Chapter 61 and notes added. Changes have been made to Chapter 63 to take account of the change from periodic inspection report to condition report and other minor changes.

**Part 7** Special installations or locations. There are minor changes throughout Part 7, mainly in connection with PME supplies.

**Section 717** Mobile or transportable units, includes a new Regulation 717.313 giving requirements for supplies.

**The following new sections are now included in Part 7:**

**Section 710** Medical locations

Section 710 applies to electrical installations in medical locations, so as to ensure safety of patients and medical staff. These requirements, in the main, refer to hospitals, private clinics, medical and dental practices, healthcare centres and dedicated medical rooms in the workplace. This Section also applies to electrical installations in locations designed for medical research. The requirements of this Section do not apply to medical electrical equipment.

**Section 729** Operating or maintenance gangways

Section 729 applies to restricted areas for authorised persons. These are areas such as switchrooms with switchgear and controlgear assemblies with a need for operating or maintenance gangways. The scope of Section 729 applies to basic protection and other aspects in restricted access areas with switchgear and controlgear assemblies, and gives requirements for operating or maintenance gangways such as the width of gangways and access areas for operational access, emergency access, emergency evacuation and for transport of equipment.

**The following main changes have been made within the appendices:**

**Appendix 3** Time/current characteristics of overcurrent protective devices and RCDs, includes minor changes.

**Appendix 4** Current-carrying capacity and voltage drop for cables and flexible cords, now includes rating factors for triple harmonic currents in four core and five core cables with four cores carrying current, and the voltage drop requirements from Appendix 12. In addition changes to the tables on rating factors and correction factors and notes with tables.

**Appendix 5** Classification of external influences, changes to the tables on utilisation category.

**Appendix 6** Model forms for certification and reporting, now includes a new electrical installation condition report that replaces the periodic inspection report. The new condition report includes a series of new inspection schedules. Also the form has been redesigned. Within the observations section the four codes, 1 (requires urgent attention), 2 (requires improvement), 3 (requires further investigation), 4 (does not comply with BS 7671:2008 amended to ...) have been replaced by three codes: code 1- Danger present, code 2 potentially dangerous, code 3 improvement recommended.

**Appendix 11** Effect of harmonic currents on balanced three-phase systems, has been deleted and the content moved to Appendix 4.

**Appendix 12** Voltage drop in consumers' installations, has been deleted and the content moved to Appendix 4.

**Appendix 16** Devices for protection against overvoltage, has been added.