Introduction

Alan Wells – Technical and Standards Director

Certsure LLP – trading as NICEIC

Who are Certsure?

Building Standards Approved Certifier

The Scottish Government

ELECTRICAL SAFETY COUNCIL

ECA

Representing the best in electrical engineering and building services

Certsure

NICEIC

ELECSA

NICEIC CERTIFICATION SCOTLAND

Where do we come from?

1923 - A National Register created

1956 - NICEIC established as a Charity to protect consumers from unsafe and unsound electrical installations

2006 - Renamed as Electrical Safety Council and NICEIC continued as its commercial arm

1901 -The Electrical Contractors' Association (ECA) was founded

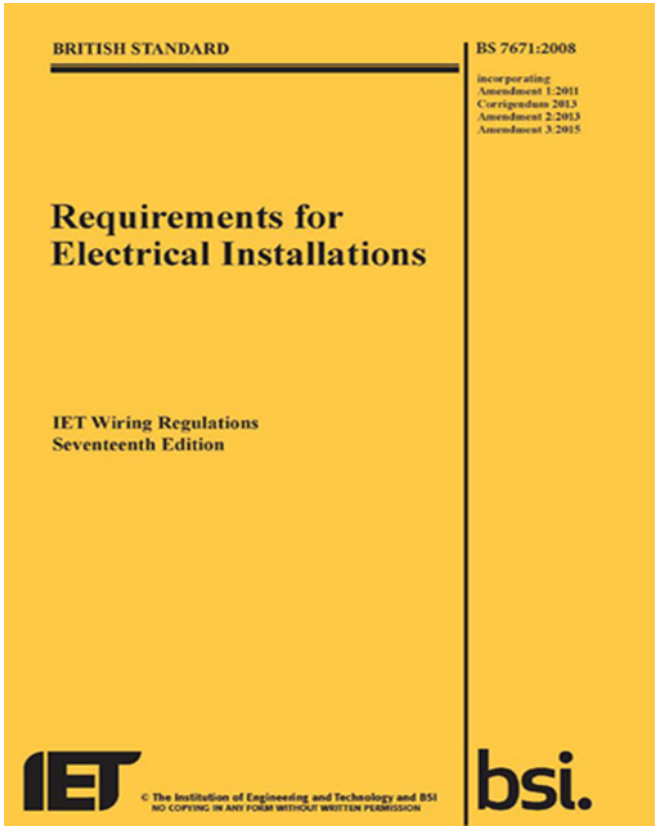
What do we do?

We serve the Building Engineering Services Sector with industry leading UKAS EN45011(ISO 17065) and 17024 accredited certification, including:

- NICEIC Approved Contractor Scheme
- SBSD Certifier of Construction (Electrical Installations to BS7671)
- DCLG approved Competent Persons Schemes – NICEIC
- BAFE Third Party Certification of those organisations involved in fire detection and fire alarm systems
- Micro-Generation Certification Scheme (MCS)
- Green Deal - installer and assessor
- We operate nationwide serving in excess 35,000 customers
- ISO / IEC 17024: 2012 - Certification of persons – Gas Safe

BS7671:2008 3rd Amendment

The changes have been finalised, and the third amendment will contain a significant number of changes affecting a wide variety of electrical installation work.

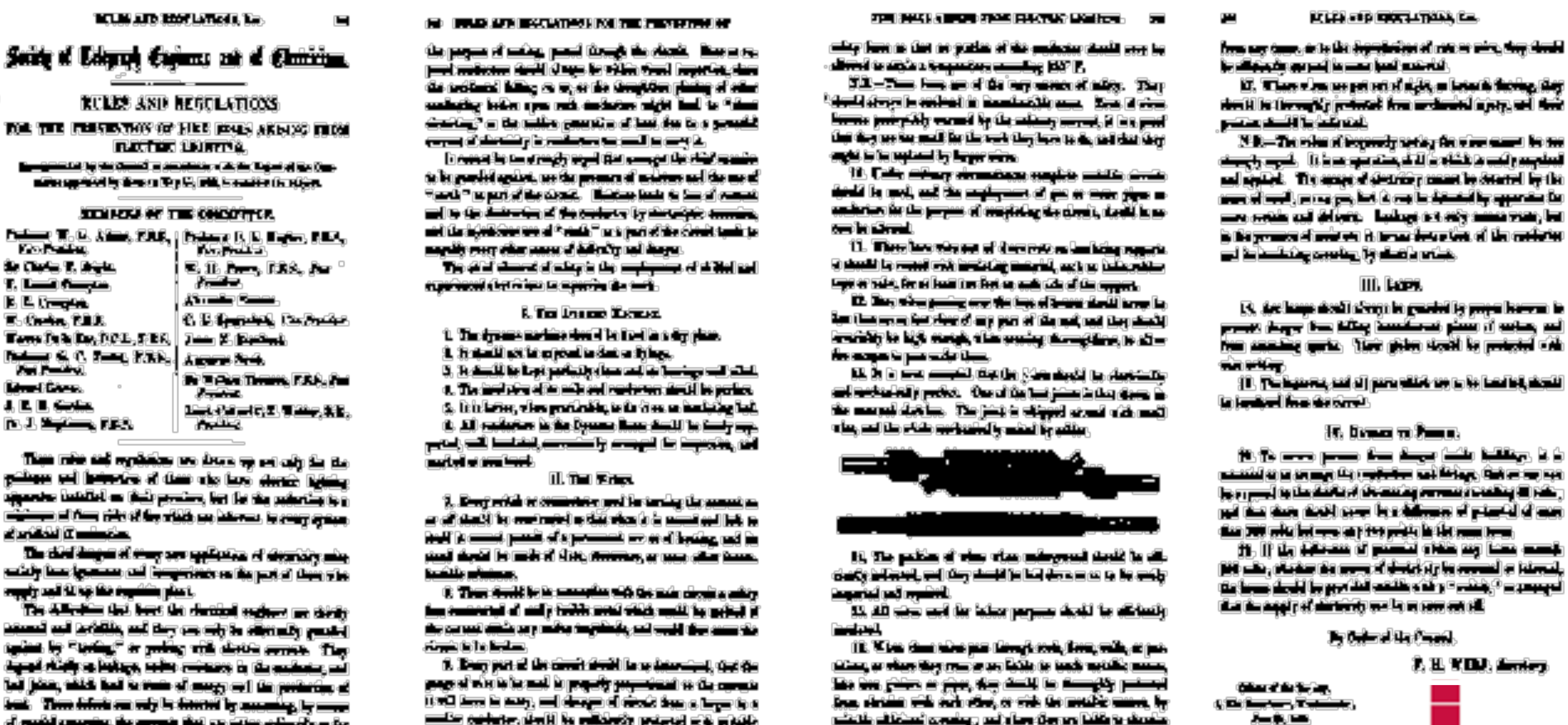


BS7671:2008 3rd Amendment

Building Standards Approved Certifier

The Scottish Government

First edition – 21 July 1882



RULES AND REGULATIONS

FOR THE PREVENTION OF FIRE RISKS ARISING FROM ELECTRIC LIGHTING.

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BS7671:2008 3rd Amendment

- The 3rd Amendment of BS 7671 will be published on **1st January 2015** and is intended to come into effect on the **1st July 2015.**

- Installations designed after the **30th June 2015** are to comply with BS 7671:2008 incorporating Amendment 3, 2015.

- Installations started after **1st January** but before **30th June** can be to either amendment – contract specification.

BS7671:2008 3rd Amendment

New Numbering system:

- Regulations with a 100 numbers represent **CENELEC harmonized** document reference numbers and;

- 200 numbers represent **UK only regulations**, e.g. 421.1.200 (a new regulation we will see again later).

BS7671:2008 3rd Amendment

Part 2 Definitions:

The definition of competent persons will be removed, to be replaced by:

Instructed person (electrically)

- Person adequately advised or supervised by a skilled person (as defined) to enable that person to perceive risks and to avoid hazards which electricity can create.

Ordinary person

- Person who is neither a skilled person nor an instructed person.

Skilled person (electrically)

- Person who possesses, as appropriate to the nature of the electrical work to be undertaken, adequate education, training or practical skills, and who is able to perceive risks and avoid hazards which electricity can create.

BS7671:2008 3rd Amendment

Chapter 41- Protection against electric shock

- There will be a requirement for RCD protection for socket-outlets up to 20 A, and for mobile equipment with a rated current not exceeding 32A for outdoors.
- An exception exists for:
  - where, other than for an installation **in a dwelling**, a documented risk assessment determines that the RCD protection is not necessary.
  - For a specific labelled or otherwise suitably identified socket-outlet provided for connection of a particular item of equipment.

BS7671:2008 3rd Amendment

Chapter 41- Protection against electric shock

- Maximum earth fault loop impedances given in tables 41.2, 41.3, 41.4 and 41.6 have been revised to take account of the **C_{min} factor**.

- **C_{min}** is the minimum voltage factor to take account of voltage variations which naturally occur in a supply.

BS7671:2008 3rd Amendment

Chapter 42 - Protection against thermal effects

New regulation - Regulation 421.1.200

- Within domestic (household) premises, consumer units and similar switchgear assemblies shall comply with BS EN 61439 3 and shall:
  - (i) have their enclosure manufactured from non-combustible material, or
  - (ii) be enclosed in a cabinet or enclosure constructed of non-combustible material and complying with Regulation 132.12.

NOTE : ferrous metal e.g. steel is deemed to be an example of a non-combustible material

BS7671:2008 3rd Amendment

Chapter 51 – Common rules, compliance with standards

Regulation 511.2

The addition of this regulation requires every item of equipment to be suitable for the nominal voltage and where necessary take into account the highest and/or lowest voltage likely to occur in normal service.

BS7671:2008 3rd Amendment

Chapter 51 – Common rules, compliance with standards

Regulation 512.1.5 Compatibility

- The designer of the fixed installation shall ensure that the installed fixed equipment, where relevant, is designed and manufactured in accordance with the EMC Directive and, upon request, the relevant documentation shall be made available.
  - As required by EMC Directive 2004/108

BS7671:2008 3rd Amendment

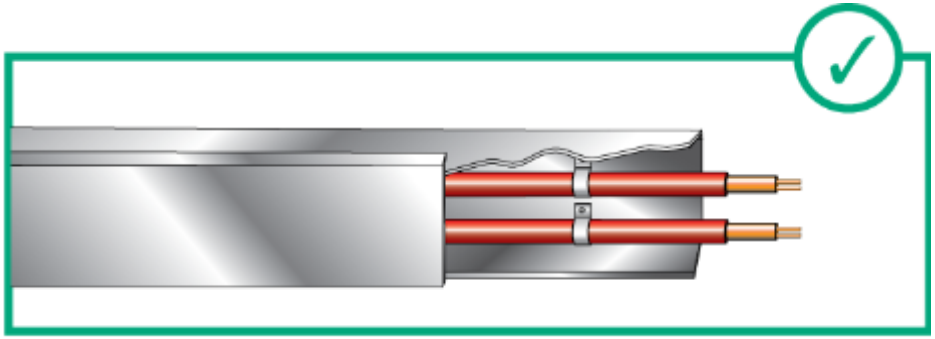
Chapter 52 – Selection and erection of wiring systems

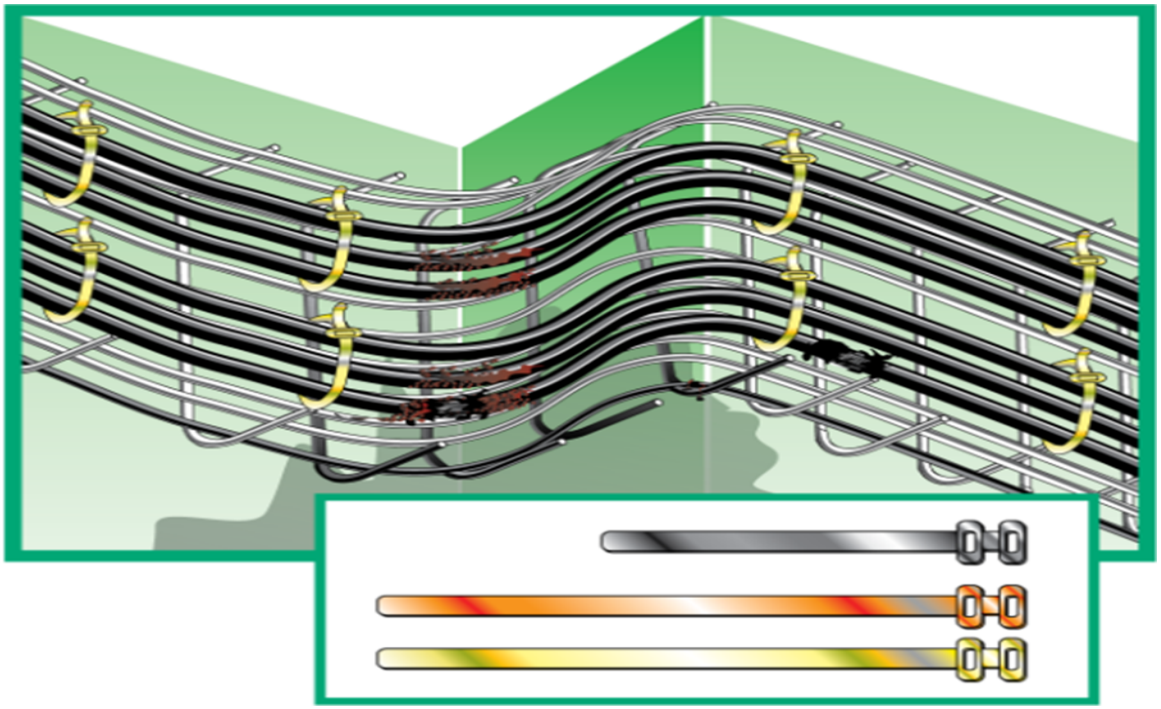
- In the light of the very real dangers to fire-fighters, a new regulation **521.11.200** (UK only) has been included giving requirements for the methods of support of wiring systems in escape routes

- Wiring systems in escape routes shall be supported such that they will not be liable to premature collapse in the event of a fire

BS7671:2008 3rd Amendment

BS7671:2008 3rd Amendment





BS7671:2008 3rd Amendment

Chapter 52 – Selection and erection of wiring systems

- The regulations concerning selection and erection of wiring systems have been re-drafted and the reference to **“under the supervision of a skilled or instructed person”** has been removed

BS7671:2008 3rd Amendment

Chapter 52 – Selection and erection of wiring systems

It will be a requirement that cables that are concealed in a wall or partition (at a depth of less than 50 mm) are protected by a **30 mA RCD** for all installations if other methods of protection are not employed.

- This will apply to a cable, irrespective of the depth of that cable, in a partition where the construction of the partition includes metallic parts other than fixings.

BS7671:2008 3rd Amendment

Chapter 55 other Equipment

- A new section **557** covering **Auxiliary Circuits** is included for low voltage electrical installations.

- Auxiliary circuits are defined in Part 2 as circuits for the transmission of signals intended for the detection, supervision or control of the functional status of a main circuit.

BS7671:2008 3rd Amendment

Section 559 luminaires and lighting installation

Amendment 3 also introduces a number of changes to align the BS 7671 requirements with the both latest **IEC and CENELEC standards**.

Examples of these changes include:

- moving the requirements for outdoor lighting and extra-low voltage lighting installations from Section 559 to two new sections, Section 714 and Section 715.

BS7671:2008 3rd Amendment

Section 714 - Outdoor Lighting Installations

Amendment 3 will make only minor changes to outdoor lighting installations:

- One important change will be that individual circuits will be required to be isolated.

- Recommendations for additional protection by a 30 mA RCD for telephone kiosks, bus shelters, advertising panels and town plans.

BS7671:2008 3rd Amendment

Section 715 - Extra-low Voltage Lighting

The Amendment 3 changes in this section include:

- the types of wiring systems permitted
- voltage drop in consumer's installations
- requirements for isolation, switching and control

BS7671:2008 3rd Amendment

Part 7 Special Installations or Locations

- Section 701 locations containing a bath or shower
- Additional protection by the use of one or more RCDs having the characteristics specified in Regulation 415.1.1 shall be provided for:
  - low voltage circuits serving the location
  - low voltage circuits passing through zones 1 and 2 not serving the location

BS7671:2008 3rd Amendment

Section 717 Mobile and Transportable Units

Regulation 717.413 has been introduced, and is based on the latest CENELEC HD. The Regulation will require:

- An insulation monitoring device to be installed so that automatic disconnection of the supply is provided in the case of a first fault or an RCD.

- An earth electrode to be installed so that automatic disconnection is provided in the case of failure of the transformer to provide electrical separation.

BS7671:2008 3rd Amendment

Section 717 Mobile and Transportable Units

- New Regulation 717.551.6 prohibits the interconnection of units with different power supply systems. This reinforces the general rules in Parts 1 to 6 of BS 7671.

- New Regulation 717.551.7.2 gives additional requirements for installations where the generating set may operate in parallel with other sources. This also reinforces the general rules in Parts 1 to 6 of BS 7671.

BS7671:2008 3rd Amendment

Appendix 6 - model forms for certification and reporting

The schedule of inspections (for new work only) has been replaced by examples of items requiring inspection during initial verifications (which must be appended to the electrical installation certificate).

Amendment 3 also makes a small number of changes to the EICR and associated notes, including a requirement to carry out an inspection within an accessible roof space where electrical equipment is present in that roof space.

BS7671:2008 3rd Amendment

Appendix 6 - model forms for certification and reporting

ELECTRICAL INSTALLATION CONDITION REPORT

SECTION D. EXTENT AND LIMITATIONS OF INSPECTION AND TESTING

Extent of the electrical installation covered by this report

.....

.....

Agreed limitations including the reasons (see Regulation 634.2) .....

.....

Agreed with: .....

Operational limitations including the reasons (see page no.....) .....

.....

The inspection and testing detailed in this report and accompanying schedules have been carried out in accordance with BS 7671: 2008 (IET Wiring Regulations) as amended to .....

It should be noted that cables concealed within trunking and conduits, under floors~~, in roof spaces,~~ and generally within the fabric of the building or underground, have **not** been inspected unless specifically agreed between the client and inspector prior to the inspection. An inspection should be made within an accessible roof space where electrical equipment is present.

BS7671:2008 3rd Amendment

Appendix 6 - model forms for certification and reporting

ELECTRICAL INSTALLATION CERTIFICATE
(REQUIREMENTS FOR ELECTRICAL INSTALLATIONS - BS 7671 [IET WIRING REGULATIONS])

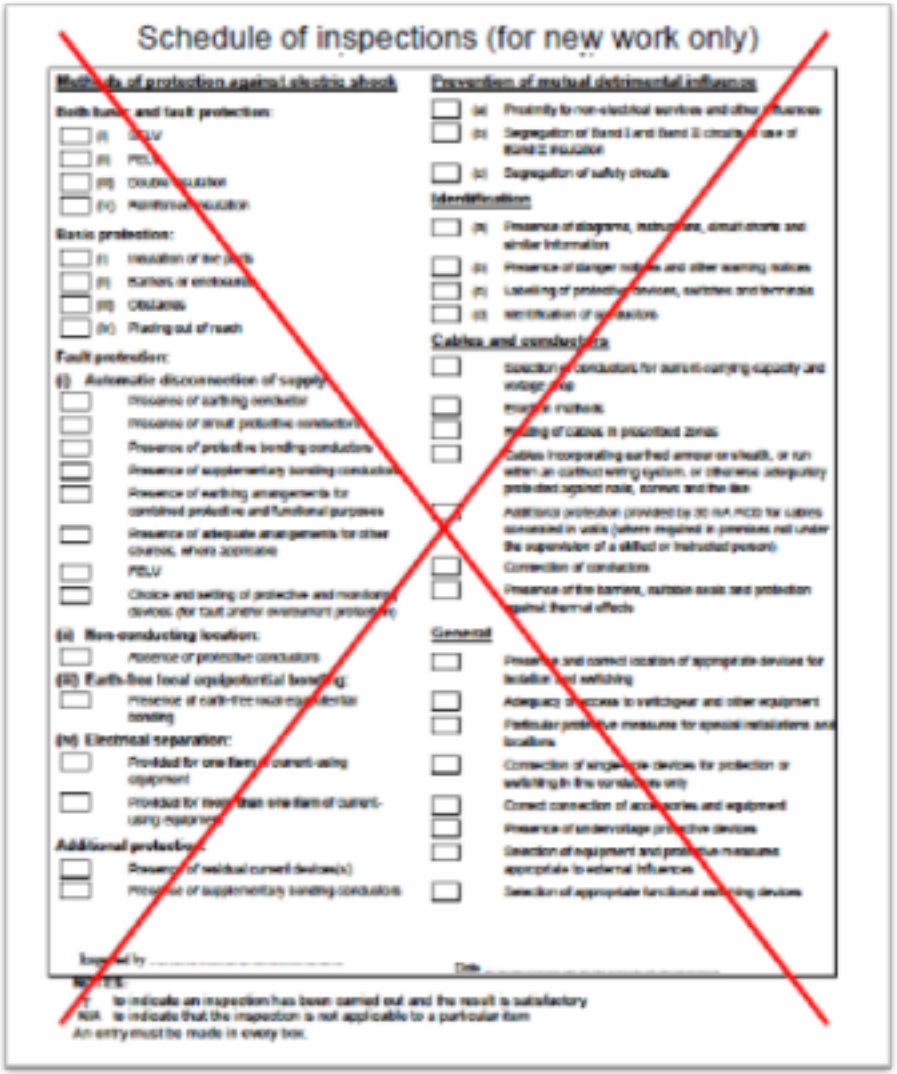
FOR DESIGN
I/We being the person(s) responsible for the design of the electrical installation (as indicated by my/our signatures below), particulars of which are described above, having exercised reasonable skill and care when carrying out the design hereby CERTIFY that the design work for which I/we have been responsible is to the best of my/our knowledge and belief in accordance with BS 7671:2008, amended to ..... (date) except for the departures, if any, detailed as follows:

Details of departures from BS 7671 (Regulations 120.3 and 133.5):

Details of permitted exceptions (Regulation 411.3.3). Where applicable, a suitable risk assessment(s) must be attached to this Certificate.

BS7671:2008 3rd Amendment

Old version



Schedule of inspections (for new work only)

Methods of protection against electric shock

Both basic and fault protection:

- (i) SELV
- (ii) PELV
- (iii) Double insulation
- (iv) Reinforced insulation

Basic protection:

- (i) Insulation of live parts
- (ii) Barriers or enclosures
- (iii) Obstacles
- (iv) Placing out of reach

Fault protection:

(i) Automatic disconnection of supply:

- Presence of earthing conductor
- Presence of circuit protective conductors
- Presence of protective bonding conductors
- Presence of supplementary bonding conductors
- Presence of earthing arrangements for combined protective and functional purposes
- Presence of adequate arrangements for other sources, where applicable
- PELV
- Choice and setting of protective and monitoring devices (for fault protection and prevention)

(ii) Non-conducting location:

- Absence of protective conductors

(iii) Earth-free local equipotential bonding:

- Presence of earth-free local equipotential bonding

(iv) Electrical separation:

- Provided for one item of current-using equipment
- Provided for more than one item of current-using equipment

Additional protection:

- Presence of residual current device(s)
- Presence of supplementary bonding conductors

Prevention of mutual detrimental influence

- (a) Proximity to non-electrical services and other influences
- (b) Segregation of Band I and Band II circuits or use of Band II insulation
- (c) Segregation of safety circuits

Identification

- (a) Presence of diagrams, instructions, circuit charts and similar information
- (b) Presence of danger notices and other warning notices
- (c) Labelling of protective devices, switches and terminals
- (d) Identification of conductors

Cables and conductors

- Selection of conductors for current-carrying capacity and voltage drop
- Erection methods
- Routing of cables in prescribed zones
- Cables incorporating earthed armour or sheath, or run within an earthed wiring system, or otherwise adequately protected against nails, screws and the like
- Additional protection provided by 30 mA RCD for cables concealed in walls (where required in premises not under the supervision of a skilled or instructed person)
- Connection of conductors
- Presence of fire barriers, suitable seals and protection against thermal effects

General

- Presence and correct location of appropriate devices for isolation and switching
- Adequacy of access to switchgear and other equipment
- Particular protective measures for special installations and locations
- Connection of single-pole devices for protection or switching in line conductors only
- Correct connection of accessories and equipment
- Presence of undervoltage protective devices
- Selection of equipment and protective measures appropriate to external influences
- Selection of appropriate functional switching devices

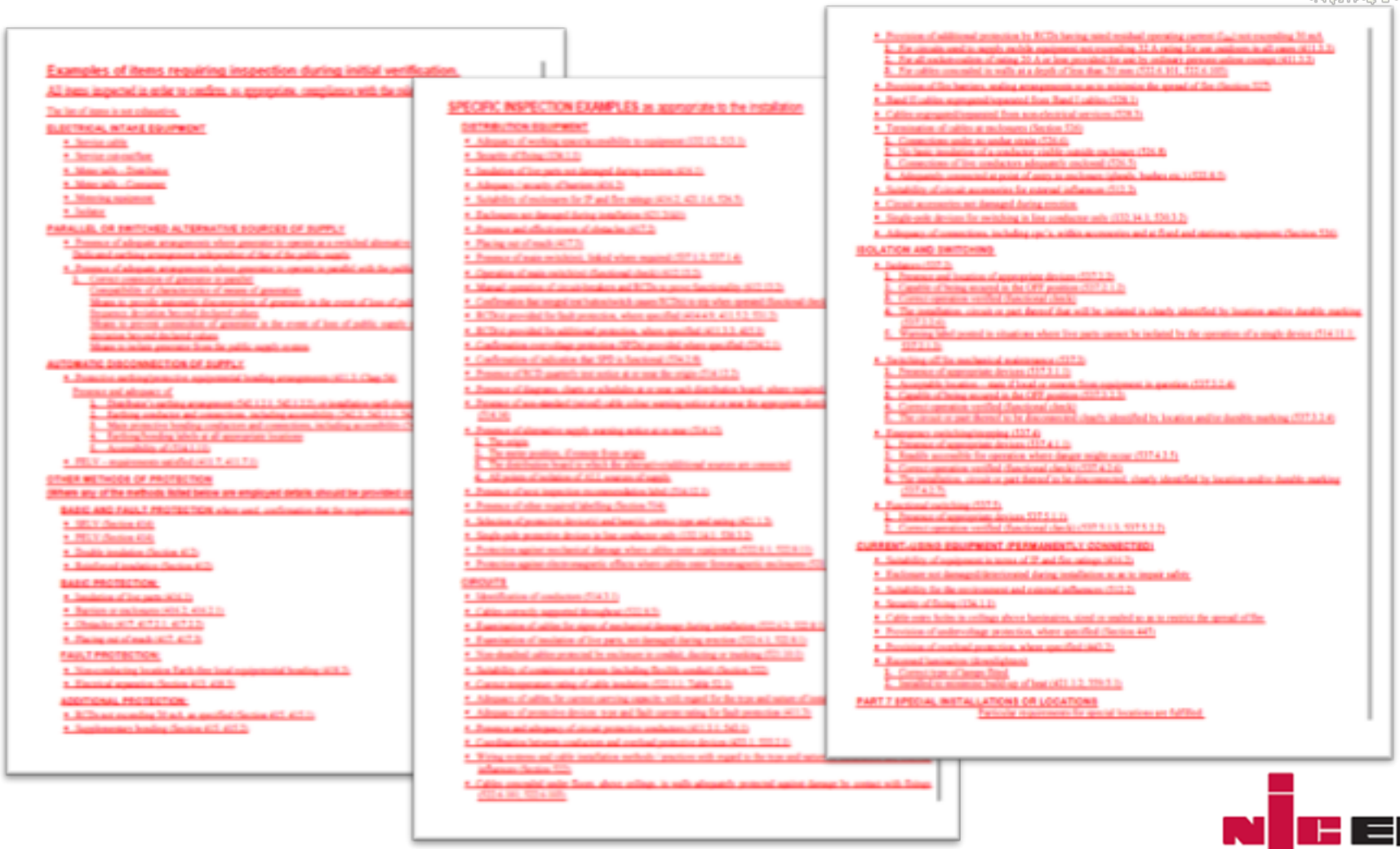
Inspected by _____ Date _____

NOTES:

- ✓ to indicate an inspection has been carried out and the result is satisfactory
- N/A to indicate that the inspection is not applicable to a particular item

An entry must be made in every box.

BS7671:2008 3rd Amendment



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And finally ……

This presentation has not included all of the changes that are included in Amendment Number 3 to BS 7671, the 17th Edition of the IET Wiring Regulations.

Thank you