



# Landlords' Guide to Electrical Safety

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## Abbreviations

<b>BS</b>	British Standard
<b>CLG</b>	Communities and Local Government
<b>EIC</b>	Electrical Installation Certificate
<b>ESC</b>	Electrical Safety Council
<b>EWR</b>	Electricity at Work Regulations 1989
<b>HHSRS</b>	Housing Health and Safety Rating System
<b>HMO</b>	Houses in Multiple Occupation
<b>IEE</b>	Institution of Engineering and Technology (IET since 2006)
<b>LACORS</b>	Local Authorities Coordinators of Regulatory Services
<b>Part P</b>	Approved Document Part P of The Building Regulations 2000 for England and Wales
<b>PIR</b>	Periodic Inspection Report
<b>RCD</b>	Residual Current Device

## Glossary

In the context of this guide the following terms are defined as:

<b>competent person</b>	a person that has the knowledge, skill and experience needed to avoid danger to themselves and others.
<b>registered electrician</b>	an electrician who is registered with a government-approved scheme or who is working directly under the control of an organisation registered with a government-approved scheme.
<b>HMO</b>	House in multiple occupation, as defined in section 254 of the Housing Act 2004.

# Landlords' Guide to Electrical Safety

England & Wales version

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# 1. Introduction

Although the UK has a fairly good record of electrical safety, there are still over 30 deaths and nearly 4000 injuries from electrical accidents and the 8000 fires that occur in the home each year. Most of the accidents in the home involve faults in, or misuse of, domestic appliances, flexes, plugs or connectors. A large number are related to electrical maintenance or DIY activities. The major dangers to health from electrical accidents are from shock, burns, electrical explosion or arcing, fire, and mechanical movements initiated by electricity.

The causes of such incidents are varied but include:

- ▶ deterioration of the electrical installation;
- ▶ broken accessories and equipment;
- ▶ misuse of the installation and equipment and occasional vandalism; and
- ▶ inconsistent maintenance programmes.



## ▲ Typical examples of potentially dangerous electrical installations

*This guide has been produced to help landlords understand their responsibilities for electrical safety in their properties as well as to provide practical advice on actions they should take to ensure the safety of their tenants.*

## 2. Legislation

### A. Landlords and Tenant Act 1985

The Landlords and Tenants Act 1985 requires that the electrical installation in a rented property is:

- ▶ safe when a tenancy begins *and*
- ▶ maintained in a safe condition throughout the tenancy.

The Landlords and Tenants Act 1985 makes it an implied term of every tenancy that the landlord will 'keep in repair the structure and exterior' of the property and 'keep in repair and proper working order the installations in the dwelling-house for the supply of water, gas and electricity, and for sanitation, space heating and heating water. The landlord cannot make the tenant responsible for these repairs.



### How does this affect you?

**It is your responsibility to ensure the above requirement is met and continues to be met.**

### B. Housing Act 2004 (England and Wales)

The Housing Act 2004 (England and Wales) came into force in April 2006, introducing major changes to the way privately rented homes are assessed and regulated. One important change was the introduction of a new method of risk assessment for residential properties called the Housing, Health and Safety Rating System (HHSRS). A new licensing scheme for Houses in Multiple Occupation (HMO) was also introduced.

The HHSRS replaced the previous Fitness Standard. Whereas the Fitness Standard focused on the structure of the building and the facilities provided, HHSRS is aimed at addressing the health impacts of poor housing. HHSRS has been developed to assess all hazards that may be present in a residential property and *'provide a safe and healthy environment for any potential occupiers or visitors.'* From an electrical perspective this includes consideration of general lighting provision, socket-outlet provision, escape lighting (emergency lighting), automatic fire detection and electrical hazards for fixed wiring and portable electrical equipment.

Guidance in relation to the HHSRS has been provided by Communities and Local Government (CLG) entitled: *Housing Health and Safety Rating System Guidance for Landlords and Property Related Professionals* and is available as a free download. In the CLG guidance, Section 23 (Electrical hazards) and Section 24 (Fire) provide information relating to the hazards associated with electrical installations and **measures to lessen the likelihood of occurrence and reduce harm outcomes.**



## How does it affect you?

**You must comply with the requirements of the Housing Act 2004, including identifying areas where work is required and carrying out any related remedial actions/work, before the local authority carries out an inspection. Should a health and safety problem be identified, the inspecting officer can take enforcement action against you.**

### **C. Management of Houses in Multiple Occupation (England) Regulations 2006 Management of Houses in Multiple Occupation (Wales) Regulations 2006**

The Housing Act 2004 introduced a new definition of a House in Multiple Occupation (HMO). Part 2 of the Act introduced the mandatory licensing of certain types of higher risk HMOs, and enables local authorities to establish discretionary additional HMO licensing schemes, subject to approval from the Secretary of State, to cover smaller types of HMO where management problems have been identified.

The Management of Houses in Multiple Occupation (England) Regulations 2006 sets out the duties of managers of HMOs and the corresponding duties of occupants. The Regulations also set out what occupiers must do with a view to assisting managers to undertake their duties. Further information is available at [www.lacors.gov.uk/lacors/ContentDetails.aspx?id=15065](http://www.lacors.gov.uk/lacors/ContentDetails.aspx?id=15065). Similar duties are required by the Management of Houses in Multiple Occupation (Wales) Regulations 2006.



## How does it affect you?

**The manager's duties include the duty to take safety measures, the duty to maintain the water supply and drainage, to supply and maintain gas and electricity and have tested regularly gas and electricity installations, the duty to maintain common parts, fixtures and fittings and living accommodation. The Regulations set out what occupiers must do with a view to assisting managers to undertake their duties**

## D. Part P of the Building Regulations (England & Wales)

In January 2005, the Government introduced electrical safety rules for dwellings into the Building Regulations for England and Wales. Because of this, most fixed electrical installation work carried out in homes must, by law, meet the Building Regulations.

Part P states that *'reasonable provision shall be made in the design and installation of electrical installations in order to protect persons operating, maintaining or altering the installations from fire or injury.'*



### How does it affect you?

**In domestic premises, apart from some types of minor work, all electrical work must either be notified to a building-control body (normally the local authority building control department) in advance of the work being started, or be carried out by an electrician who is registered with one of the Government-approved scheme providers.**

## E. Regulatory Reform (Fire Safety) Order 2005 (England & Wales)

The Regulatory Reform (Fire Safety) Order 2005 (England and Wales) became law on 1 October 2006 and replaces most of the previous fire safety legislation. The Order applies to all non-domestic premises, including common parts of blocks of flats or houses in multiple occupation (HMOs).



A document providing guidance in relation to fire safety risk assessments for sleeping accommodation is available as a free download on the Communities and local Government website at [www.communities.gov.uk/publications/fire/firesafetyrisk4](http://www.communities.gov.uk/publications/fire/firesafetyrisk4). Further information, specific to fire safety and housing is provided in the LACORS document Housing Fire safety. Guidance on fire safety provisions for certain types of existing housing which is also available as a free download at [www.lacors.gov.uk/lacors/ContentDetails.aspx?id=19843](http://www.lacors.gov.uk/lacors/ContentDetails.aspx?id=19843).





## How does it affect you?

The Regulatory Reform (Fire Safety) Order 2005 (England and Wales) requires any person who has some level of control in the premises to carry out a fire safety risk assessment and implement and maintain a fire management plan. The responsible person must take steps to reduce the risk of fire, consider how to contain a fire should one break out, and then ensure people can safely escape if there is a fire.

## F. Electricity at Work Regulations 1989

The Electricity at Work Regulations 1989 (EWR) is a statutory document requiring precautions to be taken against the risk of death or personal injury from electricity in work activities.

All electricians carrying out electrical work, whether as an employer, employee or self-employed person, must comply with the relevant requirements. In particular, regulation 16 which requires all persons working on electrical installations must have the technical knowledge and experience to prevent danger or injury.



Four main areas that need to be considered by landlords in relation to EWR are:

- ▶ systems
- ▶ electrical equipment
- ▶ conductors
- ▶ competence of persons in respect of work activities on or near electrical equipment

Complying with *BS 7671* (IEE Wiring Regulations) is likely to meet the requirements (relevant to landlords) of the Electricity at Work Regulations (see below for further information relating to *BS 7671*).



## How does it affect you?

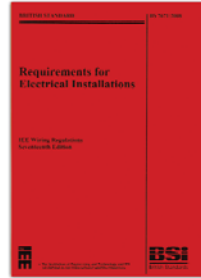
**EWR applies to you if, for example, maintenance staff are employed and when operatives are carrying out electrical installation work on your properties.**



## G. Miscellaneous electrical regulations and guidance

### British Standard 7671: 2008 (IEE Wiring Regulations)

The UK National Standard for the safety of electrical installations, *BS 7671*, contains the rules for the design and erection of electrical installations so as to provide for safety and proper functioning for the intended use. Electricians should be trained to carry out work to the requirements of *BS 7671*. Electrical Installation Certificates and Periodic Inspection Reports (discussed in Section 4 Page 14) are modelled on the forms provided in *BS 7671*.



### How does it affect you?

**All electrical work in domestic properties should always meet the requirements of BS 7671, regardless of whether you employ a *registered* electrician or other competent person.**

### British Standard 5839 Pt 1 & 6 Fire Alarms

The type of fire alarm system that is required will vary according to the type of building, its use and the type of person(s) using the building. The particular standard that applies to fire alarm systems in dwellings is *BS 5839-6 Fire detection and fire alarm systems for buildings – Part 6 code of practice for the design, installation and maintenance of fire detection and fire alarm systems in dwellings*.

BS 5839-6 prescribes the requirements for fire alarm systems. Different Grades and the extent of coverage are specified depending upon the type of building, height, occupier, use etc.

It is essential that the occupant of the dwelling (including all occupants of a house in multiple occupation) understands:

- ▶ the operation of the fire alarm system,
- ▶ the action to take in the event of a fire alarm signal,
- ▶ the means of avoidance of false alarms,
- ▶ the procedures for routine testing of the system, and
- ▶ the need for routine maintenance of the system.

The above information will normally be provided in the first instance by the supplier of the fire alarm system but in the case of rented accommodation landlords should be in a position to provide this information to tenants.

It is essential that the fire detection and alarm system is subject to periodic inspection and testing, so that unrevealed faults are identified, and, in the case of more complex systems, so that preventive measures can be taken to ensure the continued reliability of the system. The frequency and detail of periodic inspections will depend on the grade of system installed and landlords should seek advice on fire detection and alarm system periodic inspection and testing from a competent person with specialist knowledge of fire detection and fire alarm systems.



### How does it affect you?

**You need to be aware of the requirements for fire alarm systems relating to your properties or employ an expert that can advise you**

*Further information relating to fire alarm systems can be found at Annex A*

## British Standard 5266 Emergency Lighting

It is necessary for people to be able to find their way out of a dwelling to a place of safety if there is a fire. The escape routes should be free from clutter and have sufficient light to ensure safe escape.



### How does it affect you?

**You need to be aware of the requirements for emergency lighting relating to your properties or employ an expert that can advise you. Guidance from the LACORS document (see Annex B) or advice from the local authority will usually provide the answers.**

*Further information relating to lighting of escape routes can be found at Annex B*

## The Electrical Equipment (Safety) Regulations 1994

If a landlord provides any electrical appliances as part of a tenancy, the Electrical Equipment (Safety) Regulations require him or her to ensure that the appliances are safe when first supplied. Although there is no specific requirement for portable appliance testing to be carried out in rented accommodation, the landlord is required to take reasonable steps to ensure that appliances such as electric kettles, fridges and washing machines provided as part of the tenancy agreement are safe.

Portable appliance testing is one way of ensuring equipment is safe for continued use. Guidance from Communities and Local Government (CLG) indicates that when accommodation is re-let, the electrical appliances will be classed as being supplied to that tenant for the first time, and should therefore be re-checked.

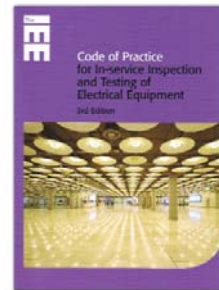


## How does it affect you?

**You must ensure electrical equipment that you provide conforms to Electrical Equipment (Safety) Regulations 1994 and take reasonable steps to ensure ongoing safety.**

### **Code of Practice for In-Service Inspection and Testing of Electrical Equipment (ISITEE)**

This document (produced by the Institution of Engineering and Technology) gives guidance to those responsible for the inspection, testing and maintenance of electrical appliances. The document also provides guidance to persons with administrative responsibilities for maintenance of electrical equipment (such as landlords). This subject is commonly referred to as 'portable appliance testing'. The document contains information for operatives carrying out inspection and testing of electrical equipment for them to determine whether electrical equipment is fit for continued service or maintenance or replacement is necessary.



It also provides advice on compliance with health and safety legislation and specifies the frequency and scope of inspections and testing for a range of electrical equipment in different environments.



## How does it affect you?

**You should ensure inspection and testing of electrical appliances is carried out by a competent person and that records providing documentary evidence of inspection and testing results are maintained.**

*Further information relating to portable appliance testing can be found at Annex D.*

### 3. Fixed Electrical Installations



An electrical installation is made up of all the fixed electrical equipment that is supplied through the electricity meter. It includes the cables that are usually hidden in the fabric of the building (walls and ceilings), accessories (sockets, switches and light fittings), and the consumer unit (fusebox) that contains all the fuses or circuit-breakers.

There are many things that contribute to the making of a 'good' electrical installation. For example, an electrical installation should have:

- ▶ enough sockets for the number of portable appliances likely to be used, in order to minimise the use of multi-socket adapters,
- ▶ covers in place to ensure that fingers cannot come in contact with live parts (broken or damaged switches and sockets should be replaced without delay),
- ▶ residual current device (RCD) protection where appropriate (an RCD provides additional protection against electric shock),
- ▶ satisfactory earthing arrangements (earthing ensures that a fuse or circuit-breaker will operate fast enough to clear an electrical fault before it can cause danger of electric shock or fire),
- ▶ satisfactory bonding arrangements (bonding ensures that any electric shock risk is minimised until the fault is cleared),
- ▶ enough circuits to avoid danger and minimise inconvenience in the event of a fault, and
- ▶ cables that are correctly selected in relation to their related fuse or circuit-breaker.

Once an electrical installation is installed it cannot simply be ignored. Over time, and with the wear and tear of regular use, the installation will start to deteriorate. Connections can work loose (a potential fire hazard), people can be heavy-handed whilst plugging in items of equipment, and building and maintenance work can have a damaging effect on the wiring.



You should carry out regular basic visual safety checks to ensure that the electrical installation has none of the following hazards:

- ▶ broken accessories (such as sockets and light switches),
- ▶ signs of scorching around sockets due to overloading,

- ▶ overheating of electrical equipment – usually detected by a strong, often fishlike, smell (such as lampholders fitted with the wrong lamps), and
- ▶ damaged cables to portable equipment or trailing cables/flexes.

In addition to regular basic visual safety checks, we would recommend that a Periodic Inspection Report (PIR) should also be carried out at regular intervals by a registered electrician that is approved to carry out Periodic Inspection Reporting.

*For further information see Section 4 'Periodic Inspecting, Testing & Reporting.'*

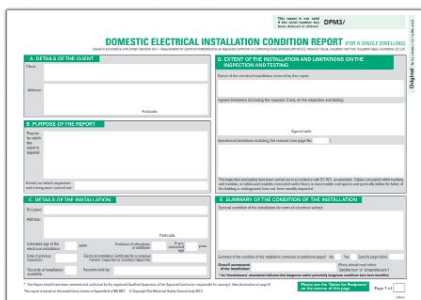
## 4. Periodic Inspection, Testing & Reporting

Every electrical installation deteriorates with use and age. It is important that you ensure that your tenant(s) are not put at risk, by ensuring that the electrical installation continues to be in a safe and serviceable condition.

A Periodic Inspection is an inspection on the condition of an existing electrical installation, to identify (in order of priority) any deficiencies against the National Standard, BS 7671, for the safety of electrical installations.

A periodic inspection should:

- ▶ reveal if any of your electrical circuits or equipment are overloaded,
- ▶ find any potential electrical shock risks and fire hazards in your electrical installation,
- ▶ identify any defective DIY electrical work,
- ▶ highlight any lack of earthing or bonding, and
- ▶ identify departures from the National standard (BS 7671).



### ▲ Domestic periodic inspection report

Tests are also carried out on the electrical installation to check that it is safe. A schedule of circuits will also be provided as part of the reporting process. The schedule should be kept adjacent the consumer unit (fuseboard).

*Further information relating to periodic inspection reporting can also be found at Annex C.*

## Frequency of Periodic Inspections

The frequency of periodic inspection and testing will depend upon the type of installation, its use and operation, the frequency and quality of maintenance and the condition of the electrical installation at the time of the inspection and test. Although *IEE Guidance Note 3 Inspection and Testing* recommends 10 years as the maximum period between tests, this relates to the period from the *initial* inspection (when the installation was first installed) to the first periodic inspection and test. Subsequent inspections may result in a recommendation for the interval between future inspections to be increased or decreased depending upon the condition of the installation, although an increase in the interval is very unlikely. The inspector recommending the interval between subsequent inspection and tests must apply engineering judgment and consider the overall condition of the installation at the time of the inspection and test. *IEE Guidance Note 3* also recommends that for domestic dwellings a periodic inspection is carried out on change of occupancy.

For rented accommodation the ESC recommends that periodic inspection and testing is carried out at least every 5 years or on the change of tenancy. Housing organisations that keep an up-to-date record of the condition of their housing stock and work to a written maintenance programme and periodic testing regime may be in position to justify a longer period between periodic inspection and tests.

Where a change of tenancy occurs after a short period (for example less than 6 months) of letting, a full periodic inspection and test may not always be required. However, it is imperative that the landlord or a person acting on their behalf carries out an electrical safety inspection, prior to the property being relet. This inspection should include checks to ensure there are no broken or missing accessories, no accessible live parts, no signs of burning at accessories or electrical equipment and a manual test of any residual current devices.

The *Management of Houses in Multiple Occupation (England) Regulations 2006* requires that every fixed electrical installation in a HMO is inspected and tested at intervals not exceeding 5 years by a person qualified to undertake such inspection and testing. A certificate from the person conducting that inspection and test, specifying the results of the inspection and test must be obtained and supplied to the local housing authority within 7 days of receiving a request in writing for it from that authority.

A procedure involving periodic inspection and test reports in conjunction with interim visual condition reports may also be considered where appropriate. However, in general a visual condition report is only suitable where the installation has been inspected and tested in the last two years, and the results were reported (on an Electrical Installation Certificate or a Periodic Inspection Report, as appropriate) as being satisfactory (or where the Periodic Inspection Report contains Code 1 or Code 2 departures the defects have been rectified).



We recommend that you use a registered electrician that is approved to carry out Periodic Inspection Reporting.



Further information relating to Periodic Inspection Reporting is available as a free download from the Electrical Safety Council in the document **Periodic Inspection Reporting – recommendation codes for domestic and similar installations**

(Best Practice Guide 4) at [www.esc.org.uk](http://www.esc.org.uk).

Further information relating to periodic inspections reports can be found in Appendix C of this guide.

## 5. Portable Appliances

The majority of electric shock fatalities in homes are caused by faulty plugs, leads and appliances and many of these can be avoided by landlords and tenants taking simple steps. It should also be noted that the safety of portable appliances relies to some extent on the standard of the *fixed* wiring.

The incorrect use of any hand-held electrical appliance will increase the risk of electric shock to the user. For example, after using an appliance, such as an iron, the user may wind the flexible cable around the appliance, and create a twist or kink in the cable. Repeating this process over time may lead to the cable being damaged and increase the risk of electric shock or fire.

So that the risks are kept to a minimum, you and/or your tenant will need to take steps to ensure that portable electrical equipment is safely used, stored and checked.

### Providing portable appliances

Before providing portable appliances to your tenant(s) you should check that each appliance at least has the CE Mark, which is the product manufacturer's claim that it meets all the requirements of European legislation. We recommend that appliances with additional safety marks, such as the British Standard Kitemark or the 'BEAB Approved' mark (which indicate that the equipment has been assessed by an independent body as meeting with the relevant product standard) are purchased, as these tend to provide greater assurance of electrical safety.

It is also important to ensure the electrical installation is suitable for the equipment provided and the equipment provided is suitable for the conditions and location where it is likely to be used.

When providing portable electrical equipment to tenant(s), the tenants should always be told to read and follow the manufacturer's instructions. Copies of the instructions should be left in the property so the tenant(s) can refer to them as and when required. Landlords should also ensure that manufacturers' instructions relating to electrical equipment are available for new tenants who may be expected to use existing electrical equipment.

## Checking portable appliances

To ensure that portable appliances continue to be safe for use, regular basic safety checks should be carried out. The checks that you or the user of the appliance can safely carry out include:

- ▶ checking that there are no cuts or abrasions in the cable covering (sheath);
- ▶ the plug has no cracked casing or bent pins;
- ▶ there are no loose parts or screws;
- ▶ there are no signs of burning, particularly at the plug;
- ▶ the outer covering of the cable is gripped by the cord grip in the plug top so that no coloured cable cores are visible from outside of the plug. (The function of the cord grip is to prevent the internal connections being pulled loose)
- ▶ checking that no part of the appliance is damaged (for example, cracked or dented) or missing (for example, a missing protective electrical connection cover or screw).

The majority of dangerous defects in electrical appliances can be identified by carrying out these checks.

**For further information relating to the frequency of inspection and testing of portable appliances see Appendix D**

## Portable Appliances for use outdoors

Where portable appliances are likely to be used outside in the garden or driveway, it is necessary for the socket supplying the appliance or equipment to be protected by a Residual Current Device (RCD) with a rated residual operating current of 30 mA or less. An RCD is an electrical safety device that switches off electricity automatically if there is a fault.



We recommend that all sockets that may reasonably be expected to be used to supply electrical equipment for use outdoors are protected by a *fixed* RCD. A fixed RCD is one where the RCD is fitted in the consumer unit (fusebox) or incorporated into a socket-outlet.

Fixed RCDs should be tested at quarterly intervals by pressing the test button marked 'T' or 'Test' as stated on the instructions that should be on or next to the consumer unit.

Where there is no RCD in the consumer unit, we strongly recommend that a portable plug-in RCD is provided for the equipment to be plugged into before plugging into the electrical installation. This type of RCD, which costs less than £10, should be tested before each use by following the manufacturer's instructions.



## 6. Fire Alarms & Emergency Lighting

### Introduction

The majority of fires in the home start in the kitchen, with the main source of ignition being cooking appliances. Other causes of fire include clothes being hung over heaters to dry and the misuse of cigarettes and candles.



Electrical wiring and equipment can also be the root cause of electrical fires. Loose connections in electrical equipment and parts of the electrical installation (such as at accessories) can produce arcing and/or heating of terminations and conductors which can lead to a fire. Incorrectly selected fuses or circuit-breakers can also lead to overheated cables.

To reduce the risk of fire causing harm or even death to your tenant(s) you will need to ensure that there is a fire alarm system and emergency lighting system (where required) installed and that they are the correct type for the property. You will also need to ensure they are regularly tested and maintained.



In the event of fire it is crucial that your tenant(s) can find their way out of the property to a place of safety. This means having a planned escape route which is free from clutter and having enough lighting to ensure a safe escape.

### Fire Alarm System selection

The type of fire alarm system you need will vary according to the type of property and its use. The British Standard, *BS: 5839-6 Fire Detection and Fire Alarm Systems for Dwellings* gives guidance on the type of system that will need to be fitted.

The presence of a suitable, properly installed and maintained automatic fire detection and warning system will alert occupants to the presence of a fire in its early stages and enable them to evacuate to a place of safety before the escape routes become blocked by smoke or directly affected by fire. The system should be designed to wake people who are sleeping (who may otherwise be asphyxiated by smoke before being able to escape). It should also be designed to alert the presence of a developing fire in any hidden areas such as boiler rooms, storerooms, cellars and other potentially unoccupied risk areas before that fire affects the escape route.

The type of system to be provided in a particular premise is dependent upon risk. A small single-family house will require only a relatively simple provision of smoke alarms, whereas large HMOs will require a more sophisticated system including both smoke and heat detectors linked to an integrated control panel and alarm sounders. All residential premises where people are sleeping should have some form of automatic fire detection and warning system.

BS 5839-6 groups fire alarm systems into six grades (A to F) for the purpose of specifying the system. Generally speaking, the greater the fire risk and the more demanding the application, the more comprehensive the system needs to be. Further information relating to the selection of grades of fire alarms systems and the level of protection for different types of rented accommodation can be found in Appendix A of this guide.



## Testing Fire Alarm Systems

All fire alarm systems need to be regularly tested to ensure they are working properly. The routine tests that are required to be carried out frequently do not require specialist knowledge and can normally be carried out by you or your tenant(s). Some routine tests and maintenance (depending upon the grade of the systems concerned) may require specialist knowledge and/or equipment.

If the dwelling has been unoccupied for a period during which the normal and standby supply (if provided) could have failed, the occupier should check immediately on reoccupying the dwelling that the system has not suffered total power failure.

### Routine testing and maintenance:

**Grade A systems** (see Section 6 of BS 5839-1 for further details)

- ▶ **Routine testing** – at least one detector or call point in each zone should be tested weekly to ensure correct operation of the system. Any defect should be recorded in the log book and action taken to correct it. Tests should not involve the use of open flame or any form of smoke or non-specific aerosol that could contaminate the detection chamber or the electronics of the detector.
- ▶ **Routine maintenance** – a six-monthly service should be carried out by a competent person, usually a specialist alarm engineer, under a maintenance contract. It entails a full test to ensure compliance as specified in with BS 5839-1, Section 6. It should be recorded in the log book and an Inspection and Servicing Certificate issued.

## Grade B, C, D, E & F systems

- ▶ **Routine testing** – All systems, other than Grade A systems, should be tested at least every week by operating all fire alarm devices in the dwelling. In the case of smoke alarms and any heat alarms, the weekly test may be carried out by use of a test button on each of the smoke alarms and heat alarms installed in the dwelling.
- ▶ **Routine maintenance** – Grade B and Grade C systems should be serviced every six months in accordance with the supplier's instructions.

Smoke alarms in Grade D, Grade E and Grade F systems should be cleaned periodically in accordance with the manufacturer's instructions.

**Further information relating to fire alarm systems can be found in Appendix A of this guide.**

## Emergency Lighting Systems



When a fire occurs, people will be escaping in haste and in a probable state of distress or even panic. At night, when they have been awoken abruptly, they may be disorientated. With this in mind, the staircase and escape route must be adequately lit.



In the event of fire it is crucial that your tenants can find their way out of the property to a safe place. This means having a planned escape route which is free from clutter and having enough lighting to ensure a safe escape.

In common escape routes, including stairways, conventional artificial lighting with a suitable system of control should be provided so that people are able to move within the escape route from a building during the hours of darkness (and during the day in areas that do not have the benefit of daylight). Some buildings will, in addition, require emergency escape lighting in the escape route. These will include:

- ▶ large buildings with long escape routes;
- ▶ buildings with a complex layout;
- ▶ buildings with no natural or borrowed lighting along the escape route; and
- ▶ buildings with vulnerable occupiers or those posing a specific risk.

**Further information relating to the selection of escape lighting provision can be found in Appendix B of this guide.**

## 7. Certification of electrical work

It is essential that you receive and retain the relevant electrical paperwork for all completed electrical installation work and periodic inspection reporting. All certificates and reports should include the relevant test results.

The type of certification or report you will receive depends on the extent and type of electrical installation work or report you have had carried out.

### Electrical certification for new installations, alterations or additions

Correctly compiled Electrical Installation Certificates (EICs) and Minor Electrical Installation Works Certificates (MEIWCs) provide the person responsible for the safety of electrical installations (including contractors, owners and users) with an important record of the condition of those installations at the time they were inspected and tested. Such certificates also provide an essential basis for subsequent inspection and testing, without which a degree of costly exploratory work might be necessary on each occasion. In the event of injury or fire alleged to have been caused by an electrical installation, certificates will provide documentary evidence to help demonstrate that, in the opinion of competent persons, the installation had been installed to a satisfactory standard of safety.

The EIC will indicate whether the electrical work that has been carried out is classed as *'new'*, an *'addition'* or an *'alteration'*. The term *'new'* is relevant where the whole installation has been installed as new, if a complete rewire has been carried out or where a consumer unit (fuseboard) has been replaced. The term *'addition'* is relevant if an existing installation has been modified by the addition of one or more new circuits. The term *'alteration'* is relevant where one or more existing circuits have been modified or extended, or items such as distribution boards and switchgear have been replaced.

An EIC must be used for all *new* electrical installations. An EIC may also be required for an alteration or addition depending upon whether or not a new circuit has been installed. Where an alteration or additional electrical work is carried out and does not extend to the provision of a new circuit, a MEIWC or an EIC may be used. A Domestic Electrical Installation Certificate is a form of EIC for use only on domestic properties.

All certificates and reports should be kept along with other important property documentation.



## Building Control Compliance Certificates

In domestic premises, apart from some types of minor work, all electrical work must either be notified to a building-control body in advance of the work starting, or be carried out by an electrician who is registered with one of the government-approved scheme providers. Once the work is complete either the electrician (where they are registered with one of the government-approved schemes) or the building-control body will issue a Building Control Compliance Certificate. This certificate states that the new electrical installation work, described on the certificate, complies with the Building Regulations. The certificate may be requested, for example, by a purchaser's solicitor when you sell your property.

All certificates and reports should be kept along with other important property documentation.

## Periodic Inspection Reports

The requirements for periodic inspection reports (PIRs) were covered in Section 4 of this guide. Two versions of the PIR are available, the 'full' version, which can be used for all types of electrical installation, and the domestic PIR (or DPIR), which has been designed specifically for domestic premises.

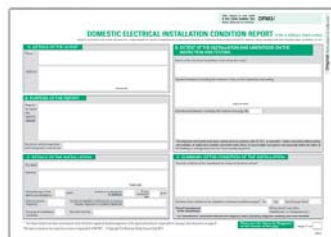
All certificates and reports should be kept along with other important property documentation.



## Visual Condition Reports

Obtaining a Visual Condition Report may be an alternative to obtaining a Periodic Inspection Report. However, a visual condition report does not include testing, so details of hidden damage to equipment (for example cables) are unlikely to be detected by inspection.

In general, a visual Condition report is only suitable where the installation has been inspected and tested in the last two years, and the results were reported (on an Electrical Installation Certificate or a Periodic Inspection Report, as appropriate) as being satisfactory (or where the Periodic Inspection Report contains Code 1 or Code 2 departures and the defects have been rectified).



**A visual condition report will include the findings of the inspection of your electrical installation.**

## **Fire Alarm Certificates**

Certificates are required for fire alarm systems when they are first installed, modified and following periodic inspection and servicing.

All certificates should be kept along with the fire alarm system log book and other important property documentation.

## **Emergency Lighting Certificates**

Certificates are required for emergency lighting systems when they are first installed and following periodic tests.

All certificates and reports should be kept along with other important property documentation.

## **Portable Appliance Testing (PAT) Certificates**

All certificates and reports should be kept along with other important property documentation.

## 8. Finding an Electrician

Electrical installation work must be carried out only by people who have the knowledge, skill and experience needed to avoid danger to themselves and others. It's easy to make an electrical circuit work; it's far harder to make the circuit work *safely*.

We strongly recommend that landlords use an electrician who is registered with one of the government-approved scheme providers to install any electrical installation work they require to be carried out. Such electricians work to the UK national safety standard (*BS 7671: IEE Wiring Regulations*) and will give you a safety certificate to confirm that their work has been designed, built, inspected and tested in line with that standard.

**Sole traders and electrical supervisors of businesses registered with one of the competent person self-certification schemes (mentioned below) will have had their qualifications, experience and samples of their work checked by the scheme provider to confirm that they have the knowledge and experience to carry out electrical work in accordance with *BS 7671*. Using a registered electrician will place less responsibility on you to decide whether an electrician is competent or not.**

Registered electricians are approved to carry out domestic electrical installation work that comes under the Building Regulations and they will deal with the relevant paperwork. This will save you time, building control charges and in most cases the work will be covered by an insurance-backed warranty.

### Finding an Electrician for Domestic Electrical installation work

The following organisations are authorised by Government to assess and register electricians who are competent to carry out and self-certify domestic electrical installation work in compliance with Part P of the Building Regulations. This means that in addition to a *BS 7671* certificate, a Building Regulations Compliance Electrical Installation Certificate will also be provided.



Benchmark Certification Ltd  
t/a CORGI membership  
Tel: 0844 8794798  
[www.corgi-membership.com](http://www.corgi-membership.com)



British Standards  
Institution  
Tel: 0845 076 5600  
[www.kitemark.com](http://www.kitemark.com)



EC Certification Ltd  
Tel: 0845 634 9043  
[www.elecsa.co.uk](http://www.elecsa.co.uk)



NAPIT Registration Ltd  
Tel: 0845 543 0330  
[www.napit.org.uk](http://www.napit.org.uk)



NICEIC  
Tel: 0870 013 0382  
[www.niceic.com](http://www.niceic.com)

In addition to the organizations authorized by Government to assess and register electricians who are competent to carry out and self-certify domestic electrical installation work in compliance with Part P of the Building Regulations, there are other government-approved competent person self-certification schemes that register electricians (or other trade operatives) who carry out electrical work, the scope of which is limited to *defined electrical installation work* in connection with, or ancillary to, non-electrical work such as central heating systems, kitchen installations, loft conversions, conservatories etc.

Further information relating to examples of work/installations that fall into the defined electrical installation work category can be found in Appendix E of this guide.

Further information and a full, searchable list of registered electricians can be found at [www.competentperson.co.uk](http://www.competentperson.co.uk).

## Finding an Electrician for Periodic Inspection and Testing of existing Installations and Portable Appliance Testing

There are no government-approved schemes in England and Wales that register competent electricians to carry out the periodic inspection and testing of existing electrical installations or portable appliance testing. However, the following organisations do register electricians that may be competent to carry out this work.

Before employing an electrician to carry out a periodic inspection or portable appliance test, check with the organisation who has registered them, to ensure they are approved to carry out this type of work.

- ▶ British Standards Institution (BSI)
- ▶ EC Certification Ltd t/a Elecsa
- ▶ NAPIT Registration Limited
- ▶ NICEIC

Using an electrician registered with one of the mentioned competency schemes to carry out periodic inspection reporting should ensure that a report will be provided in accordance with the requirements of *BS 7671*.

For testing portable appliances, certificates are issued for each appliance to confirm whether they have passed or failed the tests.

If you decide to use an electrician who is not registered with one of the mentioned schemes to carry out a periodic inspection or portable appliance test, it is your responsibility to ensure that the electrician is competent to undertake the work. The technical qualifications of the electrician being employed can help you to decide whether a particular electrician is competent, although great care may still be needed if the judgement is based on qualifications alone.

Some of the relevant nationally-recognised qualifications that an electrician may hold are:

### **Electrical installations and regulations qualifications**

City & Guilds 2360 Part 2 (Electrical Installation Competencies) or previously Course 'B' NVQ/SVQ Level 3 in Electrical Installation Work

SCOTVEC National Certificate in Electrical Installation

City & Guilds 2382-10/2382-20 (17th Edition) Certificate

*or an equivalent electrical installation qualification.*

### **Electrical inspection and testing**

City & Guilds 2392-10 (Certificate in Fundamental Inspection, Testing and Initial Verification)

City & Guilds 2391-10 (Certificate in Inspection, Testing and Certification of Electrical Installations)

*Alternatives to City & Guilds qualifications such as EAL awarded qualifications may be acceptable.*

**Note:** The Scottish Qualification Authority Tailored Award in Design and Verification of Electrical Installations may be offered in lieu of the City & Guilds 2382 and/or City & Guilds 2391 assessment.

It is recommended that persons employed to carry out electrical installation and/or periodic inspection reporting hold qualifications in electrical installation/regulation *and* in inspecting and testing.

## APPENDIX A:

# Further Guidance Relating to Fire Alarm Systems

The following guidance has been copied (with permission from LACORS) from Housing – Fire safety. Guidance on fire safety provisions for certain types of existing housing (available from LACORS as free download at [www.lacors.gov.uk](http://www.lacors.gov.uk)).

### Introduction

The type of fire alarm system installed should be in accordance with the recommendations of BS 5839-6 *Fire detection and fire alarm systems for buildings. Code of practice for the design, installation and maintenance of fire detection and fire alarm systems in dwellings*. This details different grades of system and extent of coverage and recommends an appropriate system based on the risk the premises present. Relatively simple systems will be satisfactory for smaller, low-risk premises, but larger houses and HMOs will require a more sophisticated automatic system. In bedsit HMOs with cooking facilities within the bedsits and in blocks of self-contained flats then a mixed system is usually recommended, where the escape routes and common parts are protected by an interlinked system of alarms or detectors and the individual units have a separate stand-alone system to alert a sleeping occupant of fire in their own unit of accommodation. This has the benefit of reducing nuisance/false alarms throughout the whole property caused by activities such as cooking within any one unit.

BS 5839-6 is not a prescriptive standard but is based on the principles of fire risk assessment. It should be treated with flexibility. The standards recommended in part 6 table 1 are to be regarded as base guidelines. Those recommendations will be appropriate for premises of normal risk, but where the risk is assessed to be lower or higher than normal then a lower or higher provision of detection and warning may be appropriate.

### BS 5839-6 risk assessment criteria

#### General principles:

- ▶ system design must be appropriate to the risk;
- ▶ in assessing risk, consider each room in the dwelling separately;
- ▶ consider statistical data on fire incidence in each type of dwelling/room; and
- ▶ occupant characteristics are relevant (for example tenants with impaired hearing).

**There is no risk low enough to negate the need for some form of detection and warning system in the house.**

## Design considerations/grades of system

### **Grades of automatic fire detection and warning systems as specified in BS 5839-6 (2004)**

**Grade A:** a fire detection and alarm system that is designed and installed in accordance with the recommendations of BS 5839-1 (2002), except clauses relating to alarm audibility, alarm warnings for the hearing-impaired, standby supplies, manual call points and radio-linked systems, which are replaced by part 6. This comprises a system of electrically operated smoke and/or heat detectors which are linked to a control panel. The control panel must conform to current BS 5839-4 (or equivalent). In general the system must incorporate manual call points which should be located next to final exits, and, in larger multi-storey properties, on each landing. The alarm signal must achieve sound levels of not less than 65dB (A) in all accessible parts of the building and not less than 75dB (A) at all bed-heads when all doors are shut, to arouse sleeping persons.

**Grade B:** a fire detection and alarm system including detectors (other than smoke or heat alarms), alarm sounders and control and indicating equipment which either conforms to BS EN 54-2 (power supply to BS EN 54-4) or to a simpler type laid out in annexe C of BS 5839-6.

**Grade C:** a system of fire detectors and sounders (which may be combined in the form of smoke or heat alarms) connected to a common power supply with both mains and a standby supply, with an element of central control – for example a small dedicated fire control panel.

**Grade D:** a system of one or more mains-powered smoke (or heat) alarms each with integral battery standby supply. These are designed to operate in the event of mains failure and therefore could be connected to the local lighting circuit rather than an independent circuit at the dwelling's main distribution board. There is no control panel.

**Grade E:** a system of one or more mains-powered smoke (or heat) alarms with no standby power supply. This grade of system will not function if mains power is disconnected or interrupted. It must therefore be wired to a dedicated circuit at the dwelling's main distribution board.

**Grade F:** a system of one or more battery-powered smoke alarms. These are not recommended in HMOs.

*Note: in grades D, E, and F, where more than one alarm is installed they must be interlinked.*



## Mixed grade systems

Installations where more than one alarm system is installed to serve the whole building are termed 'mixed systems'. These systems are installed to meet differing life safety objectives and may be to differing grades, having regard for the need to avoid false alarms from one dwelling unit affecting all occupiers.

Table 1 of BS 5839-6 recommends a mixed system for HMOs of three storeys and above (grade A for communal areas and grade D within individual dwelling units). However, for shared house HMOs of normal risk on the basis of risk assessment, assessment, the LACORS guidance document (referred to above) does not recommend a mixed system as detection is not normally recommended within bedrooms in this type of accommodation.

### Level of protection: types of system

BS 5839: part 6 (2004) recommends various levels of coverage for detection within premises, based on risk. These are outlined below.

### Levels of coverage of automatic fire detection and warning systems as specified in BS 5839: part 6 (2004)

**Category LD1** coverage: a system installed throughout the dwelling incorporating detectors in all circulation spaces that form part of the escape routes from the dwelling, and in all rooms and areas in which fire might start (other than toilets, bathrooms and shower rooms).

**Category LD2** coverage: a system incorporating detectors in all circulation spaces that form part of the escape routes from the dwelling, and in all rooms or areas that present a high fire risk to occupants.

**Category LD3** coverage: a system incorporating detectors in circulation spaces that form part of the escape routes from the dwelling.

### Recommended grade and coverage of automatic fire detection and warning system for various categories of existing residential premises (normal risk).

As outlined previously, when specifying a system it is necessary to follow the principles of fire risk assessment. The design and complexity of the system should reflect the risk presented by the subject property and the type of occupier.

The recommendations for system design outlined below are based on a broad risk assessment using data sourced from BS 5839: part 6 (2004). The recommendations constitute an acceptable benchmark and will, in the majority of cases, provide a

reasonable level of protection. However, individual characteristics of the subject property must always be considered before specifying a particular system. The recommendations below are based on properties considered to present a normal risk for their type. They will have a suitable level of protection to the escape route and adequate other fire precautions as recommended in the LACORS guidance document (referred to above). Their occupiers will not be from high-risk groups. If this is not the case in the property under consideration then the risk can be considered as higher, and it may therefore be considered appropriate to recommend a higher standard of fire detection and warning or provide additional fire safety measures as appropriate to the case.

In the LACORS guidance document (referred to above), for the purposes of fire safety, when counting the number of storeys the reader should count all floors from the level of the final exit to the topmost floor (include mezzanines as storeys). Where the final exit is located on the ground floor (or raised ground floor) any lower ground floor/basement/cellar should not be counted. Therefore, a house with a basement, ground and two upper floors with its entrance/final exit at ground floor level should be counted as a three-storey house. Note: this is a different convention to that in the HMO licensing definition (which counts cellars/basements) as this guidance is considering the distance of travel to the final exit as a factor in determining fire risk.

### **Single household occupancy up to four storeys**

**Grade D:** LD3 coverage (interlinked)

### **Single household occupancy five or six storeys**

**Grade A:** LD3 coverage

### **Shared house HMO of up to two storeys (shared cooking facilities)**

**Grade D:** LD3 coverage + additional detection to the kitchen, lounge and any cellar containing a risk (interlinked)

### **Shared house HMO of three or four storeys (shared cooking facilities)**

**Grade D:** LD3 coverage + additional detection to the kitchen, lounge and any cellar containing a risk (interlinked)

### **Shared house HMO of five or six storeys (shared cooking facilities)**

**Grade A:** LD2 coverage (detection in all risk rooms i.e. bedrooms, kitchen and lounge) (interlinked)

### **Bedsit HMO of one or two storeys with individual cooking facilities within bedsits**

A mixed system:

**Grade D:** LD2 coverage in the common areas and heat detectors in bedsits (interlinked)

**Grade D** smoke alarm in each bedsit to protect the sleeping occupants (non-interlinked)

### **Bedsit HMO of three to six storeys with individual cooking facilities within bedsits**

A mixed system:

**Grade A:** LD2 coverage in the common areas and heat detectors in bedsits (interlinked)

**Grade D** smoke alarm in each bedsit to protect the sleeping occupants (non-interlinked)

### **Two-storey house converted to self-contained flats (prior to Building Regulations 1991, approved document B standard)**

A mixed system:

**Grade D:** LD2 coverage in the common areas and a heat detector in each flat in the room/lobby opening onto the escape route (interlinked)

**Grade D:** LD3 coverage in each flat (non-interlinked smoke alarm in the room/lobby opening onto the escape route) to protect the sleeping occupants

### **Three- to six-storey house converted to self-contained flats (prior to Building Regulations 1991, approved document B standard)**

**Grade A:** LD2 coverage in the common areas and a heat detector in each flat in the room/lobby opening onto the escape route (interlinked)

**Grade D:** LD3 coverage in each flat (non-interlinked smoke alarm in the room/lobby opening onto the escape route) to protect the sleeping occupants

## **Building converted partly into self-contained flats and partly into bedsits or non-self-contained lets**

A mixed system:

**Apply** the appropriate recommendation for each unit of accommodation from this table and the appropriate whole-house system based on the storey height

### **Flat in multiple occupation (FMO) (any storey height and regardless of date of construction/ conversion)**

**Grade D:** LD3 coverage + additional heat detector in the kitchen (and shared living room depending on risk)

## APPENDIX B:

# Further Guidance Relating to Lighting of Escape Routes

The following guidance has been copied (with permission from LACORS) from Housing – Fire safety. Guidance on fire safety provisions for certain types of existing housing (available from LACORS as free download at [www.lacors.gov.uk](http://www.lacors.gov.uk)).

In common escape routes including stairways, conventional artificial lighting with a suitable system of control should be provided so that people are able to move within the escape route from a building during the hours of darkness (and during the day in areas that do not have the benefit of daylight). Some buildings will, in addition, require emergency escape lighting in the escape route. These will include:

- ▶ large buildings with long escape routes;
- ▶ buildings with a complex layout;
- ▶ buildings with no natural or borrowed lighting along the escape route; and
- ▶ buildings with vulnerable occupiers or those posing a specific risk.

In most single household properties conventional lighting arrangements should be adequate, subject to the above conditions. However, in larger single household properties, emergency escape lighting may be required if the escape route is complex and/or there is no effective borrowed light. In smaller properties (ground or first floor with no floor greater than 200 m<sup>2</sup> in size) where the escape routes are simple and straightforward, borrowed light from a reliable source such as a street light, may be acceptable. Exceptionally where there is no borrowed light available, suitably placed torches may be acceptable.

In buildings of up to two storeys conventional lighting arrangements will usually be adequate, subject to the above conditions. In HMOs (including shared houses) of three or four storeys, it may be appropriate to provide emergency escape lighting throughout the escape route if the route is long or complex or where there is no effective borrowed light. For all HMOs of five or six storeys then emergency escape lighting is recommended, as the escape route will be long and may be complex.

In larger or more complex premises, it is likely that a more comprehensive system of automatic emergency escape lighting will be needed to illuminate all escape routes. The inspection and maintenance of these systems will vary according to the way they are installed. Large systems will need to be inspected and maintained by a competent

person such as a registered electrician. For smaller installations, where it is likely that there is no central system, emergency lighting luminaires should be inspected and maintained in line with the manufacturers' instructions.

The recommendations for lighting of escape routes outlined below are based on a broad risk assessment. The recommendations constitute an acceptable benchmark and will, in the majority of cases, provide a reasonable level of safety. However, the recommendations are based on buildings considered to present a normal risk for their type. They will have a suitable level of protection to the escape route and adequate other fire precautions.

## **Recommendations for lighting of escape routes for various categories of existing residential premises (normal risk)**

### **Single household occupancy up to two storeys**

Conventional lighting

### **Single household occupancy three to six storeys**

Conventional lighting. Emergency escape lighting maybe appropriate if route is complex and there is no effective borrowed light

### **Shared house HMO of up to two storeys (shared cooking facilities)**

Conventional lighting

### **Shared house HMO of three or four storeys (shared cooking facilities)**

Conventional lighting. Emergency escape lighting maybe appropriate if route is complex and there is no effective borrowed light

### **Shared house HMO of five or six storeys (shared cooking facilities)**

Conventional lighting and emergency escape lighting

### **Bedsit HMO of one to four storeys with individual cooking facilities within bedsits**

Conventional lighting (and emergency escape lighting if risk requires or there is no effective borrowed light)

### **Bedsit HMO of five or six storeys with individual cooking facilities within bedsits**

Conventional lighting and emergency escape lighting

### **Two, three or four storey house converted to self-contained flats (*prior to Building Regulations 1991, Approved Document B standard*)**

Conventional lighting (and emergency escape lighting if risk requires)

### **Five or six storey house converted to self-contained flats (*prior to Building Regulations 1991, Approved Document B standard*)**

Conventional lighting and emergency escape lighting

### **Two, three or four storey building converted partly into self-contained flats and partly into bedsits or non-self-contained lets**

Conventional lighting (and emergency escape lighting if risk requires)

### **Five or six storey building converted partly into self-contained flats and partly into bedsits or non-self-contained lets**

Conventional lighting and emergency escape lighting

### **Flat in multiple occupation (FMO) occupying a single storey of a building (at any storey height and regardless of date of construction/ conversion)**

Conventional lighting (and emergency escape lighting if risk requires – may also be required in the common escape route)

### **Flat in multiple occupation (FMO) occupying more than one storey of a building (any level and regardless of date of construction/ conversion)**

Conventional lighting (and emergency escape lighting if risk requires – may also be required in the common escape route)

## **Design and installation guidance**

### **Conventional lighting**

For conventional lighting most existing arrangements will be adequate, with the following conditions:

- ▶ light switches/controls should be obvious, simple and visible under all conditions;
- ▶ switches should be located on every landing in a convenient and conventional position;

- ▶ in HMOs (except smaller shared houses) a dedicated lighting circuit should be installed so that the use of any one switch/control anywhere along the route will illuminate the entire escape route. However, in large properties where the escape route is divided into distinct, separated sections, each section may have its own control provided it is obvious and visible under all conditions. In such cases (and where there is no borrowed light to the route) the switches themselves should be illuminated. The rule is that it should never be necessary to search for switches.

If push-button, slow release lighting switches are to be used, careful consideration must be given to their duration setting. This should be assessed according to risk (i.e. the distance of travel to a safe place or final exit, the height of building, the complexity of the escape route and mobility of the occupiers). Where occupiers have limited mobility, time release switches should be avoided. In all other cases the duration must be adequate to allow a normal, orderly escape from the building and incorporate some degree of redundancy. The rule here is that people should never be plunged into darkness while using the route.

Theft of light bulbs from common areas is a problem experienced in some properties. If this is likely to be a problem, bulb holders with a different fitting to those within the accommodation units should be used (screw holders, for example). This is good practice and should be standard in bedsit-type HMOs. The use of long-life, low-energy light bulbs throughout the property also reduces the frequency of replacement, thereby helping to reduce this problem.



## Emergency escape route lighting

Where considered necessary, emergency escape lighting must be designed to comply with BS 5266.

Emergency escape lighting will automatically illuminate upon the failure of the power supply to the conventional artificial lighting, when it must:

- ▶ illuminate the escape route to assist the occupants to move easily to exits and a place of safety;
- ▶ highlight any hazards such as stairs and changes in floor level or direction; and
- ▶ enable easy identification of any fire alarm call points and fire fighting equipment throughout the escape route.



Emergency lighting must operate not only when there is complete failure of the supply to the conventional artificial lighting, but also when there is a localised power failure within the lighting circuit that could be hazardous. The source of the power supply to the emergency lighting should be from the same local fuse as the conventional escape route lighting, so that in the event of that fuse failing, causing the normal lighting to fail, the emergency lighting will be brought into operation in the same locality.

In most cases self-contained, non-maintained luminaires providing three-hour duration will be adequate. Non-maintained luminaires remain unlit when the conventional lighting power supply is healthy. When it fails, the luminaire provides power to its own lamp from its own battery and illuminates. Restoration of the conventional lighting power supply switches off the emergency luminaire and recharges its battery.

Emergency lighting systems are categorised as maintained or non-maintained followed by their duration of illumination. So a non-maintained system with three-hour duration will be categorised as NM/3.

The power supply to the luminaires should be designed to prevent unauthorised disconnection, but it must incorporate a suitable means for simulating a mains failure (i.e. a test switch).

The mounting height of luminaires will be governed by the physical characteristics of the building. They should be mounted close to two metres above floor level (when measured to the underside of the luminaire) but not lower than two metres.

#### **Luminaires should be sited in the following positions:**

- ▶ near any intersection of corridors;
- ▶ above each final exit door;
- ▶ near each change of direction (other than on a stairway);
- ▶ within each stairway so that each flight of stairs receives direct light;
- ▶ near any change of floor level;
- ▶ outside any secondary escape exit if the street lighting is poor;
- ▶ near each fire alarm call point; and
- ▶ near fire fighting equipment.

'Near' is normally considered to be within two metres when measured horizontally. The route should be reasonably uniformly lit.

## APPENDIX C:

# Further Guidance Relating To Periodic Inspection Reports

During the periodic inspection the electrician will check the electrical installation against the requirements of *BS 7671 - Requirements for Electrical Installations* (IEE Wiring Regulations).

The periodic inspection will take into account all relevant circumstances including:

- ▶ adequacy of earthing and bonding,
- ▶ suitability of the switchgear and controlgear, for example, old fuseboxes with double-pole fusing and/or wooden enclosures, are likely to need replacing,
- ▶ serviceability of accessories and light fittings, for example, older round-pin sockets, sockets mounted on skirting boards, round pattern lighting switches and braided flexible cords connecting ceiling roses to lampholders, may require replacement due to unsuitability or deterioration,
- ▶ types of wiring systems and their condition, for example, cables coated in black rubber (phased out in the 1960s) and cables coated in lead or fabric (pre-1948), may be in poor condition and need replacing,
- ▶ extent of any wear and tear, damage or other deterioration of other parts of the installation
- ▶ provision of residual current devices (RCDs) for socket-outlets that may be used to supply electrical equipment used outdoors.
- ▶ presence of adequate identification and notices
- ▶ changes in use of the premises which have led to, or might lead to, deficiencies in the installation.

### Periodic inspection report observations and recommendations

The electrician carrying out the inspection will provide a periodic inspection report (PIR) to record the findings of the inspection. In addition to the main body of the report, which will identify departures from the requirements of BS 7671 and provide an overall assessment of the suitability of the installation for continued use, the report should be accompanied by schedules of inspection and test results.

The main purpose of a PIR is to report on the safety condition of an existing installation. A PIR is a formal method of recording the findings of the periodic inspection. The inspection and testing procedures should identify any damage, deterioration, defects and dangerous conditions within the installation.

The overall assessment section(s) of the report should describe the overall condition as either '**satisfactory**', in which case no *immediate* remedial work is required, or '**unsatisfactory**' which means remedial work is required to make the installation safe to use.

## Observations and recommendations

Any relevant observations relating to the installation should, after due consideration, be recorded by the electrician in the 'observations and recommendations' section of the report. Each observation should be accompanied by a recommendation code to indicate the action needed.

- ▶ **Code 1** Requires urgent attention
- ▶ **Code 2** Requires improvement
- ▶ **Code 3** Requires further investigation
- ▶ **Code 4** Does not comply with BS 7671

The observations and recommendations should take due account of the results of the inspection and testing. They should be based on the requirements of the issue of *BS 7671* current at the time of the inspection, not on the requirements of an earlier standard current at the time the installation was constructed.

The observation(s) should be provided in an accurate and easily-understandable manner.

### Code 1

**Where a real and immediate danger is observed that puts the safety of those using the installation at risk, Recommendation Code 1 (requires urgent attention) must be given.**

The persons using the installation are at risk. The person ordering the report should be advised to take action without delay to remedy the observed deficiency in the installation, or to take other appropriate action (such as switching off and isolating the affected parts of the installation) to remove the danger. The inspector should not wait for the full report to be issued before giving this advice.

Where a Recommendation Code 1 is given, the client will be advised immediately, in writing, that urgent work is necessary to remedy the deficiency. This action is necessary to satisfy the duties imposed on the inspector and others by the *Health and Safety at Work etc Act 1974* and the *Electricity at Work Regulations 1989*.

## Code 2

A Code 2 is to be used to indicate that the observed deficiency requires action to remove potential danger.

The person ordering the report should be advised that, whilst the safety of those using the installation may not be at immediate risk, remedial action should be taken as soon as possible to improve the safety of the installation.

## Code 3

A Code 3 could be used to indicate that the inspector was unable to come to a conclusion about an aspect of the installation or, alternatively, that the observation was outside the agreed purpose, extent or limitations of the inspection, but has come to the inspector's attention during the inspection and testing.

## Code 4

This code is to be used to indicate that certain items have been identified as not complying with the requirements of the current issue of BS 7671, but that the users of the installation are not in any danger as a result.

The person ordering the report should be advised that the code is not intended to imply that the installation is unsafe, but that careful consideration should be given to the benefits of improving those aspects of the installation.

## Summary

The electrician will also give a summary of the inspection in the report, which will give a clear indication of the condition of the electrical installation, taking into account all relevant circumstances.

## Remedial work

If the report recommends improvements to the installation, ask for a fixed price quotation for the remedial work from at least three electricians. The improvements do not necessarily have to be carried out by the electrician who provided the Periodic Inspection Report.

Once the necessary remedial work has been completed, an appropriate certificate should be issued to confirm that the remedial work has been carried out in accordance with *BS 7671*.



Further guidance relating to Periodic inspection reporting is available from the Electrical Safety Council. The Best Practice Guide No 4 Periodic inspection reporting – recommendation codes for domestic and similar installations can be downloaded free from [www.esc.org.uk](http://www.esc.org.uk)

## APPENDIX D:

# Further information relating to portable appliance testing

### Portable Appliance Testing (PAT)

As you are required to ensure that all appliances such as electric kettles, fridges and washing machines provided as part of a tenancy agreement are safe, we recommend that you have these appliances tested by a registered electrician at the beginning of each tenancy and at regular intervals during any long term tenancies.

The checks that need to be carried out by a registered electrician will include:

- ▶ checking that the connections inside the plug are correct and secure;
- ▶ that the fuse inside the plug is of the correct rating;
- ▶ that no bare wires are visible other than at the terminals inside the plug and appliance; and
- ▶ there is no sign of internal damage, overheating or entry of liquids, dust or dirt.

The electrician will normally use a portable appliance test instrument to check the electrical characteristics of the electrical appliance. This type of tester is capable of carrying out a series of tests on an appliance, including tests for continuity and insulation resistance. Testing should be carried out by properly trained and experienced operatives, which is why we recommend a registered electrician be employed to carry out this work. See Section 8 'Finding an Electrician' of this booklet.

### Frequency of portable appliance testing

There are no specific legal requirements relating to the frequency of inspections and tests of electrical equipment (such as portable appliances). A risk assessment needs to be made in relation to the type of equipment, the users of electrical equipment and the environment in which the equipment is used. The *Code of Practice for In-Service Inspection and Testing of Electrical Equipment (ISITEE)* provides information relating to in-service inspection and testing of electrical equipment. The Health and Safety Executive document *INDG236 Maintaining portable electrical equipment in offices and other low-risk environments* is another useful source of information when considering the safety of electrical equipment.

## Electrical equipment categories

ISITEE Code of Practice splits electrical equipment into the following categories:



▶ **stationary equipment** (either fixed or exceeding 18 kg (without a carrying handle, example: refrigerator or washing machine)



▶ **information technology equipment** (example: computer, fax machines, modems, telephones, printers)



▶ **movable (or transportable) equipment** (less than 18 kg and not fixed example: electric fire or equipment with wheels, castors etc to facilitate movement to perform its intended use, example: compressor or air-conditioning unit)



▶ **portable equipment** (equipment that is less than 18 kg and is moved in operation example: fan, table lamps, kettle, toaster, vacuum cleaner)



▶ **hand-held equipment** (portable equipment intended to be held in the hand during normal use example: hairdryer, power drill, soldering iron).

Further to the above categories, the frequency and range of inspection and tests will depend upon whether the equipment is categorised as Class I (equipment that is required to be earthed) or Class II (equipment provided with double or reinforced insulation).

ISITEE Code of Practice provides separate categories for the inspection and testing of electrical equipment in industrial premises, schools, offices, hotels etc. Although domestic premises are not given a separate category, the environment that is considered to be the least onerous (hotels, offices and shops) could be taken as a benchmark for domestic premises. The periods between inspection and tests provided in the table below are based on information in ISITEE and INDG236. The periods recommended are for initial frequencies of inspection and testing (the period to the first inspection and test). These may need to be reduced following the subsequent inspection/test(s). Experience of operating a maintenance system over a period of time together with information on faults found, should be used to review the frequency of inspection and the frequency of combined inspection and testing. New items of electrical equipment should ideally be inspected before being put into service to check that the equipment was not damaged in transit. However, it is not normally necessary to test new items of equipment as the manufacturer will have already tested them.

## Recommended frequency of inspection and tests for electrical equipment in rented accommodation when provided by the landlord

Type of equipment	User checks Note (1)	Class I		Class II	
		Formal visual inspection Note (2) Months	Combined inspection and testing Note (3) Months	Formal visual inspection Note (2) Months	Combined inspection and testing Note (3) Months
Battery operated (less than 20 V)	None	None	None	None	None
Extra-low voltage: (less than 50 V a.c.) eg telephone equipment, low voltage desk lights	None	None	None	None	None
Stationary equipment	None	24	48(4)	24	None
Information technology equipment	None	24	48 (4)	24	None
Movable equipment	Weekly	12	24	24	None
Portable equipment	Weekly	12	24	24	None
Hand-held equipment	Before use	6	12	6	None
Cables (leads) and plugs connected to the above equipment. (2) Extension leads	Before use	6-24 months depending upon the type of equipment to which it is connected	12-48 (4) months depending upon the type of equipment to which it is connected	6-24 months depending upon the type of equipment to which it is connected	12-48 (4) months depending upon the type of equipment to which it is connected (limited test)



## Notes

- (1) User checks are required by the user before plugging in and switching on electrical equipment. User checks include a external visual inspection of plugs, flexes and appliances, as well as consideration of the suitability of appliances for the environment in which they are to be used.
- (2) The formal visual inspection should be carried out by a competent person, often the test operative. The formal visual inspection should be recorded.
- (3) The combined inspection and test should be performed by the test operative. The combined inspection and test should be recorded.
- (4) Consideration may be given to extending this to 60 months where the testing date coincides with the fixed wiring inspection and test.
- (5) When requests for tenders are being made for electrical equipment, clients should confirm whether inspection and tests of cable leads are included within the price quoted for inspection and test of their associated piece of electrical equipment.

# APPENDIX E:

## Part P Defined Competence Schemes

These schemes are designed primarily for those who do electrical installation work as an adjunct to or in connection with their primary work activities, such as gas installations, plumbing, kitchen or bathroom fitting, heating installation work, security system work.

**CORGI** Services Limited

**OFTEC** (Oil Firing Technical Association Limited)

**NICEIC** Group Limited

**NAPIT** Registration Limited (National Association of Professional Inspectors and Testers)

**ELECSA** Limited

**APHC** (Association of Plumbing and Heating Contractors (Certification) Limited)

Examples of work/installations that fall within the scope of work classified as defined competency include:

- ▶ Plumbing
- ▶ Kitchen, bathroom and bedroom fit-outs
- ▶ Security systems
- ▶ Gas heating
- ▶ Loft conversions
- ▶ Telecommunications
- ▶ Oil-fired heating
- ▶ Extensions
- ▶ Door/gate entry
- ▶ Solid fuel heating
- ▶ Conservatories
- ▶ CCTV
- ▶ Extractor fans
- ▶ Garden installations
- ▶ Maintenance
- ▶ Air conditioning
- ▶ Swimming pools
- ▶ Stair lifts
- ▶ Spa baths

## APPENDIX F:

### Useful Reference Documents

Approved Document P: Electrical safety - dwellings (2006 edition) available as a free download at [www.planningportal.gov.uk/uploads/br/BR\\_PDF\\_AD\\_P\\_2006.pdf](http://www.planningportal.gov.uk/uploads/br/BR_PDF_AD_P_2006.pdf)

The Electrical Safety Council Best Practice Guide No 4 Periodic Inspection Reporting (available as a free download at [www.esc.org.uk](http://www.esc.org.uk))

Health and Safety Executive Guidance. INDG236 Maintaining portable electrical equipment in offices and other low-risk environments.

Housing – Fire safety. Guidance on fire safety provisions for certain types of existing housing (available from LACORS as free download at [www.lacors.gov.uk](http://www.lacors.gov.uk))

Housing Health and Safety Rating System Guidance for Landlords and Property Related Professional (available as a free download at [www.communities.gov.uk](http://www.communities.gov.uk))

The Code of Practice for In-Service Inspection and Testing of Electrical Equipment (ISITEE) – available from the Institution of Engineering and Technology.

Management of Houses in Multiple Occupation (England) Regulations 2006.

Management of Houses in Multiple Occupation (Wales) Regulations 2006.

# Your notes:

## Your notes:





## The Electrical Safety Council

Unit 1.10, Canterbury Court, 1 - 3 Brixton Road, London, SW9 6DE Phone: 0870 040 0561 Fax: 0870 040 0560  
Email: [enquiries@esc.org.uk](mailto:enquiries@esc.org.uk) Web: [www.esc.org.uk](http://www.esc.org.uk)

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The Electrical Safety Council is a UK charity committed to reducing deaths and injuries caused by electrical accidents at home and at work.

