



Landlords' Guide to
Electrical Safety in Scotland



The Landlords' Guide to Electrical Safety in Scotland is produced principally for landlords. However, electrical contractors, installers and tenants may also find the information useful.

The aim of the Guide is to provide landlords with information to assist them with meeting their legal obligations in terms of electrical safety and to understand their responsibilities to help keep their tenants safe. To assist readers, references to other publications and/or website addresses are provided within this Guide, but it is not our intention that landlords purchase such publications.

This Guide has been produced by the Electrical Safety Council* with the support of the following bodies:




In electronic format, this Guide is intended to be made available free of charge to all interested parties. Further copies may be downloaded from the websites of some of the contributing organisations.

The version of this Guide on the Electrical Safety Council website (www.esc.org.uk) will always be the latest. Feedback on any of our Guides is always welcome.

*The Electrical Safety Council is an independent charity committed to reducing deaths and injuries caused by electrical accidents at home and at work. We are supported by all sectors of the electrical industry as well as local and central government and work to promote safety and good practice.

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SAFETY
COUNCIL

The Electrical Safety Council
The Walled Garden,
Bush Estate,
Midlothian, EH26 0SB

Tel: 0870 040 0561 Fax: 0870 040 0560

Email: enquiries@esc.org.uk

Website: www.esc.org.uk

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1. Introduction

Although the UK has a relatively a good record of electrical safety, recorded figures for 2007 show that 19¹ people died from electrocution and/or fatal electric burns as a result of an accident in the home. The figures also revealed there were 21 424² accidental domestic fires of an electrical origin, which resulted in 49² deaths and 3 477² injuries.

Most accidents in the home relate to faults or misuse of domestic appliances and the use of the fixed electrical installation. That said, it is sad to report that even in this day and age several thousand fires², hundreds of injuries² and 14² deaths are still caused by objects being placed too near to heat sources (such as electric heaters or lamps).

The three major dangers to persons from electrical accidents in the home are from electric shock, fire and burns.

The causes of such incidents are varied but include:

- ▶ deterioration of the electrical installation
- ▶ broken accessories and equipment
- ▶ misuse of the installation and equipment
- ▶ occasional vandalism, and
- ▶ inconsistent or inappropriate 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.

¹ Number of deaths recorded under W86 and W87 categories as reported to the World Health Organisation, minus those from HSE data, given in confidence, for the year 2007

² Data supplied by the Department of Communities and Local Government

2. Legislation

If you own a property such as a house, a flat, or a bedsit and let it out to someone else then you are likely to be a landlord in the eyes of the law.

Since 30 April 2006, all private landlords in Scotland are required to register with the local authority (or authorities) where they are, or will be, renting out property. It is a criminal offence to rent out a property without having submitted a valid application for registration. This requirement is made under Part 8 of the Antisocial Behaviour etc. (Scotland) Act 2004.

Before approving a landlord's registration, the local authority must be satisfied that you are a 'fit and proper' person to act as a landlord. In the vast majority of cases, applications are approved. However, the local authority will consider any evidence that a landlord may have acted unlawfully that may bring into question his or her ability to be a landlord. Such evidence may include, for example, criminal convictions or persistent complaints from tenants about bad practice.

Currently, registration lasts three years from the date the local authority enters a landlord on to the register. So, if you want to continue complying with the law, you will need to renew registration once registration has lapsed.

Apart from a few exemptions, you must register if you are a private landlord letting residential property in Scotland, whether or not you use a letting agent.

One of the main reasons registration has been introduced is to ensure landlords meet minimum standards and remove those that do not meet the minimum standards. Registration also allows tenants to identify the landlord of a private rented property.

More detailed information about landlord registration is available from the Scottish Government's Better Renting website, which provides information on the legal rights and responsibilities of landlords and tenants, and advice on best practice. Visit www.betterrentingscotland.com for further information.

If you require information on the legislation underlying the requirements of the scheme, and how the detail of it was developed and consulted on, visit the Scottish Government website: www.landlordregistrationscotland.gov.uk

A. Housing (Scotland) Act 2006

The Housing (Scotland) Act 2006, as amended, applies to landlords and tenants in private sector housing, although some provisions within the Act do relate to housing rented by local authorities.

The Housing (Scotland) Act 2006 requires an electrical installation in a rented property to be:

- ▶ in a reasonable state of repair and proper working order at the start of the tenancy and at all times during the tenancy

Part 1 of the Act contains two significant chapters with respect to the electrical installations within rented properties that landlords need to be aware of and act upon. The names of those chapters are the 'tolerable' standard and the 'repairing' standard.

Chapter 3 - The 'tolerable' standard

This chapter of the Act extends the definitions set out in Section 86 of the Housing (Scotland) Act 1987 to include electrical safety.

The 'tolerable' standard requires that:

- ▶ 'the electrical installation within a rented property is to be adequate and safe.'

One way to meet this is to follow the technical rules in *BS 7671*, Requirements for Electrical Installations (otherwise known as the Wiring Regulations), published by the Institution of Engineering and Technology (IET).

Whilst the Wiring Regulations are non-statutory, they are often used to demonstrate compliance with a statutory obligation. The Scottish Building Standards Division (SBSD) Technical Handbooks, for example, states that a new installation conforming to the standard set in *BS 7671* will satisfy the safety requirements for electrical installations in the Building (Scotland) Regulations 2004.

An electrical installation is defined in Chapter 14 of the Housing (Scotland) Act 2006 as 'the electrical wiring within the property and associated components and fittings, but excludes equipment and appliances.'

The 'tolerable' standard also requires:

- ▶ adequate lighting, heating, and hot water and ventilation to be provided within the rented property. For rented properties without central heating, the electrical installation must be able to support an adequate number of portable electric heaters

- ▶ a suitable safe space is available for a cooking appliance to be installed inside the main living area of the house. This means that a tenant should not have to go outside, or through someone else's property, to reach the cooking facilities. A cooker should not be located under a stair, in a cupboard off a room, in a garage, or anywhere that requires the occupier to go outside or through another person's house to access it. A property having the power source for a cooker located in any of these places is likely to fall below the 'tolerable' standard.
- ▶ Where a cooker is provided with the property, and it is electric, it must be connected to a fixed electrical power outlet suitable for a standard electric cooker (i.e. one with an oven, grill and four hot plates).

Chapter 4 - The 'repairing' standard

The 'repairing' standard defines the statutory requirements that have to be met by a private landlord. It covers various aspects of the property. From an electrical perspective, these include the electrical installation, electrical appliances, electrical heating, lighting and the hot water system(s).

A landlord in a tenancy must ensure that the rented property meets the 'repairing' standard at:

- ▶ the start of the tenancy and
- ▶ at all times during the tenancy.



How does it affect you?

It is your responsibility to ensure that you meet, and continue to meet, the 'tolerable' and 'repairing' standards.

A way of checking to see whether an electrical installation and any supplied appliances are safe is to have them checked by a competent electrician with experience for this type of work, before each tenancy commences.

Refer to Section 4 and Section 5, respectively, of this Guide for further details.

Further information can be obtained from the Scottish Government website:

For the 'tolerable' standard: www.scotland.gov.uk/Publications/2006/07/18162031/8

For the 'repairing' standard: www.scotland.gov.uk/Publications/2006/07/18162031/9

It is also your responsibility to have smoke alarms installed in a rented property. (Refer to Section 6 of this Guide for further information.)

B. Houses in multiple occupation (HMO)

As well as registering as a landlord, if you are planning to rent your property to three or more unrelated people, you will also need a Houses in Multiple Occupation (HMO) licence before you rent out the property. Such properties include, but are not limited to: those rented to students, young professionals, migrant workers and tied accommodation. It has been a mandatory requirement to obtain a licence for an HMO since October 2000.

To obtain a HMO licence, you will need to apply to the local authority that covers the area where the HMO property is located. The local authority sets the standards required and also sets the fees for a licence application.

Flats or bedsits that are otherwise separate are considered part of one house if they share cooking, washing and/or toilet facilities.

The owner of the house is responsible for obtaining an HMO licence from the local authority. However, before a licence can be awarded, the local authority will make sure that acceptable standards are met in the following three categories:

- ▶ you are a fit and proper person
- ▶ there are tenancy management systems in place which are reviewed
- ▶ the physical conditions of the property are suitable and fit for purpose

The Scottish Government provides guidance for Licensing Authorities on the operation of the licensing scheme.

HMOs are now covered by new fire safety legislation.

For further information, visit www.infoscotland.com/firelaw.



How does it affect you?

A landlord's duties include the duty to take safety measures within his rented property and to repair and maintain as per the 'tolerable' and 'repairing' standard of the Housing (Scotland) Act 2006. In the case of an HMO, this includes the duty to repair and maintain common areas (such as corridors and hallways) of the tenanted building.

Failure to meet these standards may result in the local authority taking an enforcement action against you, and you may be removed from the landlords' register and/or prosecuted.

Further information can be obtained from: www.prhpscotland.gov.uk/prhp/1.html

Private Rented Housing Panel

With the introduction of the Private Rented Housing Panel (PRHP), a dispute between a tenant and his or her landlord should now be resolved a lot quicker and more efficiently than before.

Where rent is being paid and a landlord refuses to keep the property in a proper state of repair, the PRHP will look to resolve differences. Once a complaint has been received by the PRHP, and the President decides the complaint is valid, the complaint is passed to the Private Rented Housing committee, who will then process the complaint. For more information about the PRHP, visit www.prhpScotland.gov.uk

The Scottish Housing Quality Standard

The Scottish Housing Quality Standard (SHQS) is a new set of criteria that local authorities and registered social landlords must ensure they meet by 2015. It differs from the statutory 'tolerable' standard and the Building Standards as it is aimed at all housing and is based on a number of broad quality criteria. To meet the SHQS, the property must be:

- ▶ compliant with the 'tolerable' standard
- ▶ free from serious disrepair
- ▶ energy efficient
- ▶ provided with modern facilities and services
- ▶ healthy, safe and secure.

Further information can be obtained from: www.decenthomesstandard.co.uk/scottish

C. Building (Scotland) Regulations 2004

The purpose of the Building (Scotland) Regulations 2004, as defined by the Building (Scotland) Act 2003, is: to secure the health, safety, welfare and convenience of people; to further the conservation of fuel and power; and to further the achievement of sustainable development, with respect to the design, construction, demolition and conversion of buildings and the provision of services, fittings and equipment in or in connection with buildings.

Within the regulations are 'standards' that buildings have to meet. They come in the form of 'expanded functional standards'. That is, the standards describe the functions a building should perform. The most relevant one for electrical safety is mandatory standard 4.5 which states that:

'Every building must be designed and constructed in such a way that the electrical installation does not:

- a) threaten the health and safety of the people in, and around, the building
- b) become a source of fire'



How does it affect you?

It is a legal requirement for all new electrical work in domestic properties to comply with the Building Regulations.

Therefore, to meet the above requirement, we recommended that you use a competent electrician to undertake electrical installation work.

For certain types of electrical installation work, you may need to obtain a building warrant – the legal authority to commence work. Refer to Section 7 of this Guide for further information.

D. Fire (Scotland) Act 2005

Research has shown that Scotland has shown a consistent and disproportionately higher number of fire deaths, fire casualties and fire incidents compared with the rest of the United Kingdom¹. With this in mind, the Scottish Government introduced new legislation in October 2006 to set out, amongst other things, how a modern Fire and Rescue Service should operate in the 21st century. This new legislation, known as the Fire (Scotland) Act 2005, replaces most of the previous fire safety legislation. The Act also specifies who has responsibility for fire safety in non-domestic premises in Scotland.

NOTE: Communal areas (such as stairwells, corridors, electrical switchrooms, and plant or boiler rooms) in tenements, flats and houses in multiple occupation (HMOs) are not classed as private dwellings under the Civic Government (Scotland) Act, so are subject to the Fire (Scotland) Act 2005.

Section 53 and 54 of The Fire (Scotland) Act 2005 requires persons in control of communal areas to carry out fire risk assessments, and the Fire (Safety) Scotland Regulations 2006 provide instruction in connection with carrying out fire risk assessments. It is a legal requirement to regularly review fire risk assessments.

Guidance in relation to fire safety risk assessments for sleeping accommodation is available as a free download on the Scottish Government website: www.infoscotland.com/firelaw

¹Chief Officer's report in *Scotland Together* (November 2008; published 2009.)

Landlords who let private dwellings also have a responsibility to carry out fire risk assessments in order to prevent fire. Guidance on fire prevention in the home can be found on the Scottish Government website: www.dontgivefireahome.com



How does it affect you?

The Fire (Scotland) Act 2005 and The Fire Safety (Scotland) Regulations 2006 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.

E. 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 persons carrying out electrical work, whether as an employer, employee or self-employed person, must comply with the relevant requirements of EWR. Of particular interest is regulation 16, which requires persons to be competent - that is, they should possess relevant knowledge and experience, or should be adequately supervised, as to be able to prevent danger or injury.

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

- ▶ systems
- ▶ electrical equipment
- ▶ conductors
- ▶ the 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 overleaf 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.

When a landlord instructs a contractor to carry out electrical work, it will then be the responsibility of the contractor (and his or her employer, where relevant) to comply with the requirements of the Electricity at Work Regulations.

F. Miscellaneous electrical regulations and guidance

British Standard 7671: 2008 (IEE Wiring Regulations)

BS 7671, The UK National Standard for the safety of electrical installations, contains the requirements for the design and erection of electrical installations so as to provide for safety and proper functioning for the intended use. Electricians should be able to carry out work in accordance with requirements of *BS 7671*. Electrical Installation Certificates and Periodic Inspection Reports (discussed in Section 7) are modelled on the forms provided in *BS 7671*.



How does it affect you?

All electrical work in domestic properties should always be carried out in a way that it meets 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*.

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 avoiding 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 installer 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 subjected to periodic inspection and testing, so that unrevealed defects 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 in Appendix A of this Guide

British Standard 5266 — Emergency Lighting

In the event of an emergency (such as a fire), it is essential that people can escape from the building to a place of safety. The escape route(s) therefore need to be free from clutter and have sufficient light to ensure a safe escape. Refer to page 23 for further information.



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 your local authority Building Standards department will usually provide the answers.

Further information relating to lighting of escape routes can be found in Appendix B of this Guide

The Electrical Equipment (Safety) Regulations 1994

If a landlord provides any electrical appliances as part of a tenancy, the Electrical Equipment (Safety) Regulations requires 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. The 'repairing' standard, within the Housing (Scotland) Act 2006, requires appliances to be in a reasonable state of repair and proper working order where a landlord supplies them under the tenancy.



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 information within the code of practice should aid persons carrying out inspection and testing of electrical equipment to determine whether or not equipment is fit for continued use, should be maintained or needs replacing.

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

Those undertaking portable appliance testing should hold a copy of this publication, or an equivalent.



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 in Appendix D of this Guide.

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:

- ▶ sufficient 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 rated at 30 mA or less provides additional protection against electric shock)
- ▶ satisfactory earthing arrangements (reliable earthing ensures that a fuse or circuit-breaker will operate fast enough to clear an electrical earth fault before it can cause danger of electric shock or fire)
- ▶ satisfactory bonding arrangements (bonding ensures that any electric shock risk caused by an earth fault 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 associated fuse or circuit-breaker.

Once an electrical installation is installed it cannot simply be ignored. Over time, and with the wear and tear of 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 at sockets and light switches)
- ▶ signs of scorching on socket face-plates, due to overloading
- ▶ overheating of electrical equipment – usually detected by a strong, often fishlike, smell (such as at 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 competent electrician.

For further information see Section 4 'Periodic Inspecting, Testing & Reporting' of this Guide.

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.



▲ Typical example of a 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 in Appendix C of this Guide.

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, 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 judgement 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 the change of occupancy, prior to the new tenant moving in.



For rented accommodation, we recommend 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 be 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 re-let. 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. Documented evidence of such an inspection should be retained for future use.

For an electrical installation in a HMO, guidance provided by the Scottish Government recommends the electrical installation is examined by a competent person to confirm it is functioning properly and is safe. Such an examination is recommended to be done at least once every three years. Please check with your local authority to confirm this is still current practice. A report from the person conducting that inspection and test, specifying the results of the inspection and test must be submitted to the local housing authority within an agreed time

A procedure involving periodic inspection and testing, in conjunction with interim visual condition reports may also be considered where appropriate. However, in general, we consider the use of a Visual Condition Report is only suitable where the installation has either been inspected and tested as part of the initial verification process, in which case an Electrical Installation Certificate should have been issued, or has been inspected and tested within the last two years, in which case a Periodic Inspection Report should have been issued. Where a periodic inspection has been carried out, the overall outcome stated on the report should have been 'Satisfactory', or any Code 1 or Code 2 departures should have been rectified.

We recommend that you use a competent electrician who has relevant experience 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*

Further information relating to periodic inspection 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 flex around the appliance, and create a twist or flex in the cord. Repeating this process over time may lead to the flex 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(s) 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 has at least 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 condition(s) and location where it is likely to be used.

Where portable electrical equipment is provided, the tenants should always be told to read and follow the equipment 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 body is not cracked or damaged and the pins are not bent;
- ▶ there are no loose parts or missing screws;
- ▶ there are no signs of burning, particularly at the plug;
- ▶ the outer covering of the cable is secured by the clamp (or grip) in the plug so that no coloured cable cores are visible from outside of the plug. (The function of the clamp (or grip) is to prevent the internal connections being pulled loose)
- ▶ checking that no part of the appliance is excessively damaged (for example, cracked or dented) or missing (such as, 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 an Earth fault.



BS 7671: 2008 requires all sockets rated at up to 20 A for use by ordinary persons for general use including equipment for use outdoors to be protected by a fixed RCD. A fixed RCD is one where the RCD is fitted in, or close to, the consumer unit (fusebox) or incorporated into a socket.

RCDs installed within consumer units should be tested quarterly, 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, usually available for under £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. BS 5839-6 *Fire Detection and Fire Alarm Systems for Dwellings* gives guidance on the type of system that is required.

The presence of a suitable, properly installed and maintained automatic fire detection and alarm 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 premises 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 a 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. This will entail 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 Report 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 having neither natural nor 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 that the electrical work was completed. 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 (together with the inspection and test results) will provide documentary evidence to help demonstrate that, in the opinion of the competent persons undertaking the work, the installation had been installed to a satisfactory standard.

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 which 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. Such documentation should be made available for future reference.

Compliance with Building Regulations

To help individuals comply with Building Regulations, the Building Standards Division (part of the Scottish Government) produces guidance material in the form of two Technical Handbooks (one for domestic buildings and the other for non-domestic).

Following the functional guidance provided in the Technical Handbooks is likely to be the normal way of complying with the Building Regulations. However, it is acceptable for a designer to put forward other ways of meeting the regulations, in the form of alternative solutions. Guidance is presented as Technical Standards, with Technical Standard 4.5 (electrical safety) and 4.6 (electrical fixtures) being the two most appropriate to electrical installations.

For ease of reference, Technical Standard 4.5.1 states that an electrical installation should be designed, constructed, installed and tested such that it is in accordance with the recommendations of *BS 7671: 2008*.

Both Technical Handbooks are available as a free download from the following website:

www.scotland.gov.uk/Topics/Built-environment/Building/Building-standards

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

Depending on the nature of the electrical installation work to be done, you may require a building warrant.

A building warrant is the legal authority to commence work, and must be applied for at the local authority Building Standards Department by the Landlord or his appointed agent and issued, prior to any work commencing.

The Scottish Building Standards Division (BSD) provides two schedules on their website for domestic properties detailing electrical work that requires a warrant. For ease of reference, they have been reproduced below:

**Guidance on electrical work NOT requiring a warrant
- Domestic buildings**

(This table has been reproduced with kind permission of the Scottish Government)



DOMESTIC BUILDINGS	WORK TO EXISTING BUILDINGS			
	type [1]	flat	house (up to 2 storeys)	house (3 storeys & above)
Repairs and replacement				
Re-wiring [2]	24	required	not required	required
Electrical fixtures, eg luminaries	24	not required	not required	not required
New work				
Electrical work affected by demolition or alteration of the roof, external walls or elements of structure	1	required	required	required
Electrical work adversely affecting a separating wall, eg recessed sockets	1	required	required	required
New power socket-outlets	1	required	not required	required
Mains operated fire alarm system	1	required	not required	required
Electrical work to automatic opening ventilators (including auto-detection)	1	required	not required	required
Electrically operated locks	1	required	not required	required
Wiring to artificial lighting	1	required	not required	required
Wiring to emergency lighting	1	required	not required	required
Electrical work associated with sprinkler system	1	required	not required	required

DOMESTIC BUILDINGS	WORK TO EXISTING BUILDINGS			
	type (1)	flat	house (up to 2 storeys)	house (3 storeys & above)
New work (continued)				
Electrical work associated with new boiler (large)	1	required	not required	required
Electrical work associated with new boiler (small)	6	not required	not required	not required
Electrical work associated with new shower	11, 12	not required	not required	not required
Electrical work associated with new extract fan	13	not required	not required	not required
Extra low voltage installations	22	not required	not required	not required

Note 1 - Building work type as referenced in schedule 3 of The Building (Scotland) Regulations 2004 as amended.

Note 2 - A building warrant is not required for rewiring where it is a repair or replacement works to a level equal to the installation (or part thereof) being repaired or replaced.

Guidance on electrical work NOT requiring a warrant - Non-domestic buildings

(This table has been reproduced with kind permission of the Scottish Government)



NON-DOMESTIC BUILDINGS	WORK TO EXISTING BUILDINGS			
		non-residential buildings with a storey, or creating a storey, not more than 7.5m		other non-domestic buildings
	type [1]	no public access	public access	
Repairs and replacement				
Re-wiring [3]	24	not required	required	required
New work				
Electrical work affected by demolition or alteration of the roof, external walls or elements of structure	2	required	required	required
Electrical work adversely affecting a separating wall, eg recessed sockets	2	required	required	required
Electrical work adversely affecting a loadbearing wall	2	required	required	required
New power socket-outlets	2	not required	required	required
Automatic fire detection system	2	not required	required	required
Electrical work to automatic opening ventilators	2	not required	required	required
Electrical work to automatic fire dampers	2	not required	required	required
Electrically operated locks	2	not required	required	required
Wiring to artificial lighting	2	not required	required	required
Wiring to emergency lighting	2	not required	required	required

New work (continued)				
Outdoor luminous tube signs (4)	2	not required	not required	not required
Electrical work associated with new boiler (large)	2	not required	required	required
Electrical work associated with new boiler (small)	6	not required	not required	not required
Electrical work associated with new shower	11, 12	not required	not required	not required
Electrical work associated with new extract fan	13	not required	not required	not required
Extra low voltage installations	22	not required	not required	not required

Note 1 Building work type as referenced in schedule 3.

Note 2 Non-residential buildings to which the public does not have access may include:

- Existing offices
- Existing storage buildings
- Existing industrial buildings e.g. factories and workshops
- Existing assembly and entertainment buildings not open to the public e.g. some educational buildings and private members clubs.

Non-residential buildings to which the public has access may include:

- Existing assembly and entertainment buildings open to the public e.g. community schools, pubs and clubs.

Note 3 A building warrant is not required for rewiring where it is a repair or replacement works to a level equal to the installation (or part thereof) being repaired or replaced.

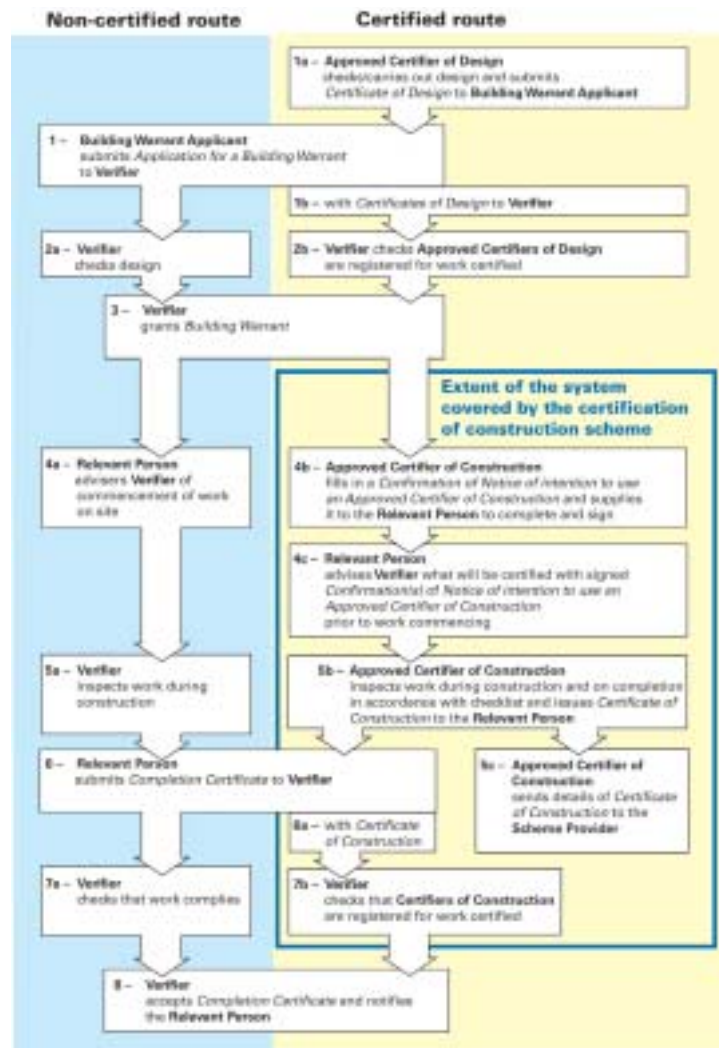
Note 4 subject to the Town and Country Planning (Control of Advertisement) (Scotland) Regulations 1984.

Where doubt exists as to whether electrical installation work requires a warrant or not, Landlords should contact the local authority Building Standards Department.

The process for applying for a warrant is shown in the diagram overleaf, which is based on the Procedural Handbook, available from the Building Standards Division's website at www.scotland.gov.uk/Topics/Built-Environment/Building/Building-standards

How the Scottish Building Regulations will work - An overview

(This table has been reproduced with kind permission of the Scottish Government)



Regardless of whether the electrical work requires a warrant or not, on completion of the works an Electrical Installation Certificate or, where appropriate, a Minor Electrical Installation Works Certificate, should be issued. Model certificates are provided in Appendix 6 of BS 7671, as amended.

Options where electrical installation work is NOT certified by an approved Certifier of Construction

Where electrical installation work is not certified by an approved Certifier of Construction, the local authority (the 'verifier') will make reasonable enquiry to ensure the work is as per the Building Warrant and that it complies with *BS 7671* and the Technical Standards. This means the 'verifier' will either:

- ▶ seek submission of a relevant certificate, from a competent installer (such as one being registered with a scheme operated by a recognised professional body such as NICEIC or SELECT or an equivalent body), to state the installation was designed, constructed, inspected and tested in accordance with the requirements of *BS 7671*, as amended, or
- ▶ require an independent inspection and test, where the guidance in clause 4.5.1 of the Technical Handbook supporting functional standard 4.5 is not followed
- ▶ regardless of the circumstances, seek from the relevant person, an independent inspection and test in accordance with Section 41 (2) (c) of the Building (Scotland) Act 2003.
- ▶ take no action at all, if the verifier is satisfied that the electrical installation has had the appropriate certificate issued and no further reasonable enquiry is required. It is anticipated that this option will be unusual, and may be used at the discretion of the verifier.

It is worth mentioning that the local authority have statutory powers to instruct the removal or alteration of any work that does not comply with the Building Regulations or differs from that agreed on the warrant. In certain cases, failure to comply with the Building Regulation can also lead to prosecution.

Comparison of Options

Whilst both options provide individuals with a route to comply with Building Regulations, using a competent electrician registered with a registration scheme for Certification of Construction (such as one who is registered with NICEIC or SELECT) offers many advantages. For example:

- ▶ the installer can deal with all of the new requirements
- ▶ the installer will provide the householder with an authenticated certificate to confirm that the work carried out complies with the building regulations, and was undertaken by a competent installer
- ▶ a refund on the building warrant fee
- ▶ access to a formal complaints procedure if there is reason to believe that the work does not comply with the building regulations.

Periodic Inspection Reports

The requirements for periodic inspection reports (PIRs) are 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

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 Electrical Installation Certificate or a Periodic Inspection Report, as appropriate, is available for reference purposes. In the case of a PIR, the 'overall outcome' should have been satisfactory, or any Code 1 or Code 2 departure/defect should have been rectified.

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 therefore recommend that landlords use an electrician that is assessed for competence by a professional organisation such as NICEIC or SELECT. Such electricians work to the UK national safety standard *BS 7671* (otherwise known as the IEE Wiring Regulations). Then, following completion of the work, the electrician should provide you with a certificate to confirm that the work has been designed, built, inspected and tested in line with that standard.

It should be noted that the issuing of an Electrical Installation Certificate or, where appropriate, a Minor Electrical Installation Works Certificate, is part of the job. It is not an extra. Model certificates are given in *BS 7671*.

Sole traders and electrical supervisors of businesses registered with either NICEIC or SELECT will have had, amongst other things, their qualifications, experience and samples of their work checked to confirm that they have the knowledge and experience to carry out electrical works in accordance with *BS 7671*. Using an electrician registered with NICEIC or SELECT will place less responsibility on you to decide whether an electrician is competent or not.

Finding an Electrician for electrical work REQUIRING a building warrant

The following organisations are authorised by the Scottish Government to assess and register electricians who are competent to carry out and certify electrical installation work in compliance with the Building Regulations. This means that in addition to a *BS 7671* certificate for electrical work, a Building Regulations Certificate of Construction will also be provided.



NICEIC
Warwick House
Houghton Hall Park
Houghton Regis
Dunstable LU5 5ZX
Email: enquiries@niceic.com
Web: www.niceic.com



SELECT
The Walled Garden
Bush Estate
Midlothian, EH26 0SB
Email: admin@select.org.uk

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

NVQ/SVQ Level 3 in Electrical Installation Work

SCOTVEC National Certificate in Electrical Installation

City & Guilds 2360 Part 2 (Electrical Installation Competencies) or previously Course 'B'

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

As there are so many different types and sizes of buildings these days, the Scottish Government has made available two publications that deal with the general fire safety requirements within premises that provide sleeping accommodation. The guidance does not, however, apply to premises that are used for a care home, for health care; for secure accommodation, or for premises where persons are detained in lawful custody.

For any premises that fall within the scope of Part 3 of the *Fire (Scotland) Act 2005*, as amended, and comprise:

- ▶ up to 2 storeys in height with a maximum single storey area of 200 m²;
- ▶ 3 storeys in height with a maximum single storey area of 100 m²; or
- ▶ Individual flats or maisonettes, regardless of storey height, with a maximum single storey area of 200 m²,

reference should be made to *Practical Guidance for Small Premises Providing Sleeping Accommodation*.

The guidance in this document covers Houses in Multiple Occupation (HMOs) subject to licensing and is also likely to include buildings or premises used as a:

- ▶ small hotel, boarding house, guest house,
- ▶ leased holiday home accommodation, such as a holiday cottage, flat or chalet
- ▶ small hostel accommodation.

For any premises that comprise:

- ▶ any single storey area over 200 m²;
- ▶ 3 storeys in height with a single storey area over 100 m²; or
- ▶ more than 3 storeys in height.

reference should be made to *Practical Fire Safety Guidance for Medium and Large Premises Providing Sleeping Accommodation*.

The guidance in this document covers HMOs subject to licensing (including a complex, such as a block of flats, consisting entirely of licensable, flatted HMOs) and is likely to include any building that is used as:

- ▶ a hotel
- ▶ holiday complex or camping and caravan sites (other than individual units that are privately owned)
- ▶ a hostel, refuges or premises occupied by religious communities
- ▶ bunk houses or bunk barns
- ▶ sleeping accommodation for pupils, students or employees, and
- ▶ registered clubs.

Both documents can be downloaded free of charge from:
www.infoscotland.com/firelaw

Small premises — fire detection and alarm requirements

Individual flats, maisonettes and other small premises usually comprising of not more than two storeys in height should normally be provided with a fire alarm system (designed for dwellings) complying with the recommendations of BS 5839: Part 6 for a **Grade D Category LD2 system**. This type of fire alarm system incorporates interlinked, mains-operated smoke and heat detectors (with battery back-up) connected to either a regularly used local lighting circuit, or to an entirely independent circuit to which no other electrical equipment is connected.

Small premises comprising of 3 or more storeys in height should be provided with a fire alarm system (designed for dwellings) complying with the recommendations of BS 5839: Part 6 for a Grade A Category LD2 system. This type of fire alarm system incorporates control and indicating equipment complying with the recommendations of BS EN 54: Part 2 and comprises interlinked, mains operated smoke and heat detectors (with battery back-up) connected to an entirely independent circuit to which no other electrical equipment is connected. Connection to a regularly used lighting circuit is the preferred option.

Regardless of the type of system installed, fire detection should include at least one:

- ▶ Smoke detector on each of the upper floor landings;
- ▶ Smoke detector in the ground floor hallway;
- ▶ Heat detector in each kitchen;

- ▶ Smoke detector in each lounge;
- ▶ Smoke detector in each bedroom;
- ▶ Smoke detector in any basement; and
- ▶ Smoke detector in any other room off an escape route.

NOTE: All detectors installed (or replaced) on or after 3 September 2007 must be mains powered (with battery back up).

Where it is impractical or impossible to link individual systems together, such as in a mixed-use multi-occupied/owned building, the automatic fire detection system installed in individual flats/accommodation should be extended into the common staircase escape route(s) at the same level as the entrance door to the premises.

Medium and Large Premises providing sleeping accommodation — fire detection and alarm system requirements

The Technical Annex within the above guide contains benchmarks in respect of fire detection and alarms, against which the existing level of provision can be compared. Where these benchmarks are not achieved and the results of the risk assessment indicate risk reduction measures are required, consideration should be given to implementing improvements.

1. A fire detection and warning system designed, installed and maintained in accordance with the guidance in BS 5839: Part 1 for a category L2 system is likely to be appropriate for the majority of sleeping accommodation premises. A category L2 system is a system designed for the protection of life and which has automatic detectors installed in escape routes and rooms adjoining escape routes.

It should be noted that BS 5839 Part 1 is a specialist subject, and we recommend that landlords or their agents having responsibility for properties requiring protection to this standard, seek specialist advice.

For landlord's properties that do not fall within the scope of Part 3 of the *Fire (Scotland) Act 2005*, guidance should be sought from BS 5839-6.

BS 5839-6 risk assessment criteria

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. This means that, amongst other things:

- ▶ the system design should be appropriate to the risk
- ▶ each room in the dwelling is separately assessed to the risk
- ▶ the statistical data on fire incidence in each type of dwelling/room is considered; and
- ▶ an occupant's characteristics are relevant (for example, a tenant does not have impaired hearing).

Whilst BS 5839-6 is not a prescriptive standard, the guidance it provides is based on the principles of fire risk assessment, and should in the majority of cases provide a reasonable level of protection. However, individual characteristics of a subject property must always be considered before specifying a particular system. The standards recommended in Table 1 of BS 5839-6 should be regarded as base guidelines as the recommendations given assume occupants will not be from high risk groups. If this is not to be the case, then the risk can be considered to be higher and a higher standard of detection and warning may be appropriate.

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 65 dB (A) in all accessible parts of the building and not less than 75 dB(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 Annex 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 must not be used 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.

Section 9.1.5 of BS 5839-6 recommends a mixed system for HMOs of three or more storeys (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, the practical fire safety guidance document (referred to above) does not recommend a mixed system as detection is not normally recommended within bedrooms in this type of accommodation., and a grade A category L2 system should be installed

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.

APPENDIX B:

Further Guidance Relating to Lighting of Escape Routes

Escape Route Lighting

It is important for persons to be able to leave a building safely in the event of a fire breaking out within the building. The escape routes therefore need to be provided with effective lighting to allow safe passage through these routes in the event of a failure of the normal lighting power supply. Signs and notices may be needed to help people identify escape routes, find fire-fighting equipment, or to provide specific information or warning about particular equipment, doors, rooms or procedures.

As covered in the opening paragraphs to Appendix A of this guide, there are so many different types (and sizes) of buildings these days, the Scottish Government has made available two publications that deal with the general fire safety requirements within premises that provide sleeping accommodation. The guidance does not, however, apply to premises that are used for a care home, for health care; for secure accommodation, or for premises where persons are detained in lawful custody.

The two publications are:

- ▶ Practical fire safety guidance for small premises providing sleeping accommodation
- ▶ Practical fire safety guidance for medium and large premises providing sleeping accommodation

Both documents are available as a free download from the Scottish Government's website www.infoscotland.com.

The practical fire safety guidance for small premises providing sleeping accommodation states that the premises should be provided with lighting to the extent necessary to ensure that, in the event of an outbreak of fire within the building, illumination is provided to assist in escape and in implementing the emergency fire action plan.

The following are benchmarks against which existing provision can be compared.

Every part of an escape route should have artificial lighting supplied by a protected circuit. However, in simple premises where borrowed lighting (for example, from fixed street lights) is found to be inappropriate following a fire safety risk assessment, it may be more appropriate to rely on self-contained lighting luminaries than to install a protected circuit to an existing lighting system.

If there are escape routes that are not permanently illuminated, such as external stairs, then a switch, clearly marked 'Escape route lighting', or some other means of switching on the lighting should be provided at the entry to that area unless there is sufficient borrowed lighting already available.

For properties that fall within the scope of Part 3 of the *Fire (Scotland) Act 2005*, as amended escape lighting should comply with the illumination levels specified in BS 5266: Part 1 as read in association with Part 7 and 8 of BS EN 1838.

Escape route lighting can be stand-alone dedicated units or incorporated into normal light fittings. Power supplies can be independent rechargeable batteries integral to each unit, a central battery bank or an automatic generator. Single 'stand-alone' escape route lighting units may be sufficient in some premises and these can sometimes be combined with exit or directional exit signs. Note, however, the level of general illumination should not be significantly reduced by the sign.

The recommendations for lighting of escape routes outlined here are based on a broad risk assessment, based on buildings considered to present a normal risk for their type. The recommendations constitute an acceptable benchmark and will, in the majority of cases, provide a reasonable level of safety.

Guidance for medium and large premises providing sleeping accommodation.

The guidance in the document for medium and large premises providing sleeping accommodation is applicable to fire safety in premises that fall within the scope of Part 3 of the *Fire (Scotland) Act 2005*, as amended. The guidance therefore applies to such premises which comprise:

- ▶ Any single storey area over 200 m²;
- ▶ 3 storeys in height with a single storey area over 100 m²; or
- ▶ More than 3 storeys in height.

This includes HMOs subject to licensing (including a complex, such as a block of flats, consisting entirely of licensable, flatlet HMOs). An escape route light fitting should be sited to provide adequate illuminance near each exit door and at positions where it is necessary to emphasize potential danger, such as the following:

- ▶ at each exit door intended to be used in an emergency
- ▶ near stairs so that each flight of stairs receives direct light
- ▶ near any other change in level
- ▶ at each change of direction (such as at intersections of corridors)
- ▶ outside and near to each final exit and on external escape routes
- ▶ emergency escape signs
- ▶ windowless rooms and toilet accommodation exceeding 8 m² (excluding en-suite facilities)
- ▶ near each piece of fire-fighting equipment and call point
- ▶ equipment that would need to be shut down in an emergency; and
- ▶ lifts.

Note: For the purpose of the above points, 'near' is considered to be within 2 m measured horizontally.

In the case of a building with a smoke and heat exhaust ventilation system, the emergency lighting should be below the smoke curtains or installed so that it is not rendered ineffective by smoke filled reservoirs.

Emergency lighting is classified according to a number of parameters, but the main two are known as 'maintained', i.e. on all the time, and 'non-maintained' which operate only when the normal lighting fails.



Escape Route Lighting

The premises should be provided with escape route lighting to the extent necessary to ensure that in the event of an outbreak of fire within the building, illumination is provided to assist in escape and to aid staff/residents in implementing the emergency fire action plan.

Escape route lighting utilises the artificial lighting within the building. Every part of an escape route should have artificial lighting supplied by a protected circuit that provides a level of illumination not less than that recommended for emergency lighting. The escape route lighting need not be supplied by a protected circuit if the building has an emergency lighting system installed.

In protected zones the artificial lighting should be supplied via a protected circuit separate from that supplying any other part of the escape route, unless a system of emergency lighting is installed in the protected zone. A protected circuit is a circuit originating at the main incoming switch or distribution board, the conductors of which are protected against fire. It may be easier to rely on self-contained emergency lighting luminaires than to install a protected circuit to an existing lighting system.

If there are escape routes that are not permanently illuminated, such as external stairs, then a switch, clearly marked 'Escape lighting', or some other means of switching on the lighting should be provided at the entry to that area.



Emergency Lighting

Emergency lighting is lighting designed to come into, or remain in, operation automatically in the event of a local or general power failure. Emergency lighting may also be provided on a wider scale to allow some of the normal functions of the premises to continue, in the event of interruption to the mains supply.

A system of automatic emergency lighting is likely to be needed within premises providing sleeping accommodation. The risk to the occupants will determine the complexity of appropriate emergency lighting.

Emergency lighting should be installed in all protected zones and:

- ▶ an unprotected zone in a building or parts of a building with a storey height of more than 18 m
- ▶ a room with an occupancy capacity of more than 60, or in the case of an inner room, the combined occupancy capacity of the inner room plus the adjoining room (and any zone serving such a room)
- ▶ an unprotected zone serving a basement storey
- ▶ a place of special fire risk (other than one requiring access only for the purpose of maintenance) and any zone serving it, and
- ▶ an unprotected zone serving any storey which has at least two storey exits.

The lighting should comply with BS 5266: Part 1 as read in association with Parts 7 and 8 of BS EN 1838.

Emergency lighting can be stand-alone dedicated units or incorporated into normal light fittings. Power supplies can be independent rechargeable batteries integral to each unit, a central battery bank or an automatic generator. Single 'stand-alone' emergency lighting units may be sufficient in some premises and these can sometimes be combined with exit or directional exit signs. However, the level of general illumination should not be significantly reduced by the sign.

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

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)



Moveable (or transferrable) equipment (less than 18kg and not fixed example: electronic 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 For examples see Electrical equipment categories above.	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:

Useful Reference Documents:

As mentioned in the preface, it has not been possible to cover every aspect of electrical safety in this guide. Therefore, for more detailed information on: periodic inspection of fixed electrical installations; inspection and testing of portable appliances; and fire safety, reference should be made to the following documents:

- ▶ The Electrical Safety Council's Best Practice Guide No 4 Periodic Inspection Reporting (available as a free download at www.esc.org.uk)
- ▶ Health and Safety Executive Guidance. INDG236 Maintaining portable electrical equipment in offices and other low risk environments.
- ▶ The code of practice for In-Service Inspection and Testing of Electrical Equipment (SITEE) - available from the Institution of Engineering and Technology.
- ▶ Management of Houses in Multiple Occupation
- ▶ Practical fire safety guidance for small premises providing sleeping accommodation (available as a free download at www.infoscotland.com.)
- ▶ Practical fire safety guidance for medium and large premises providing sleeping accommodation (available as a free download at www.infoscotland.com.)

Abbreviations

BS	British Standard
SBSD	Scottish Building Standards Division
EIC	Electrical Installation Certificate
ESC	Electrical Safety Council
EWR	Electricity at Work Regulations 1989
MEIWC	Minor Electrical Installation Works Certificate
HMO	Houses in Multiple Occupation
IET	Institution of Engineering and Technology (IEE prior to 2006)
ISITEE	Code of practice for In-Service Inspection and Testing of Electrical Equipment
PRHP	Private Rented Housing Panel
SHQS	Scottish Housing Quality Standard
PIR	Periodic Inspection Report
RCD	Residual Current Device



The Electrical Safety Council

The Walled Garden, Bush Estate, Midlothian, EH26 0SB Phone: 0870 040 0561 Fax: 0870 040 0560

Email: enquiries@esc.org.uk Web: www.esc.org.uk

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The Electrical Safety Council is an independent charity committed to reducing deaths and injuries through electrical accidents at home and at work.

