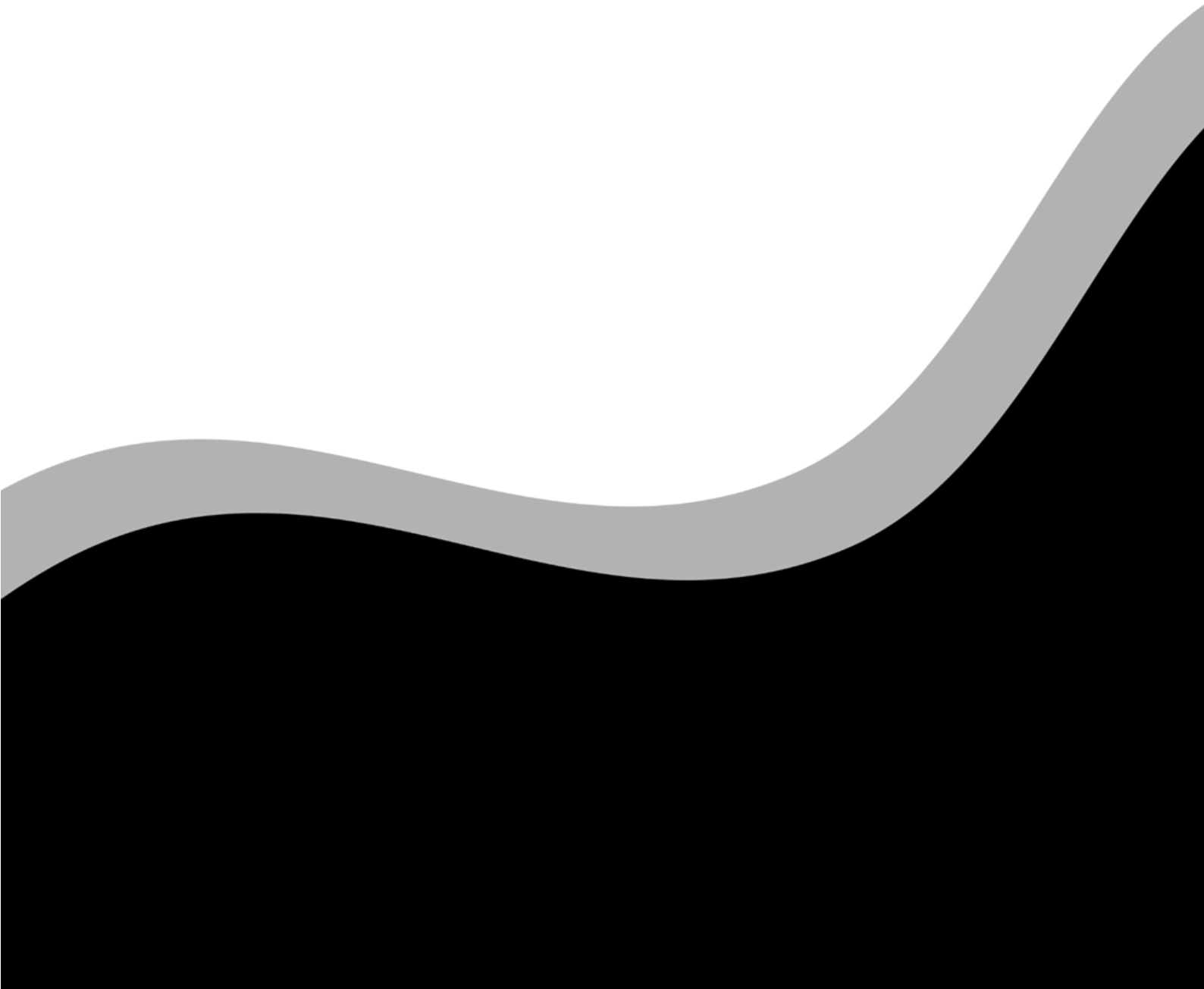




Instant Risk Guidance

TR 03 Electrical Safety



TR 03 Electrical Safety

Electricity can kill or severely injure people. It can also cause serious damage to property and major business interruption from the effects of fires and explosions. With the exception of malicious ignition, electrical failure or malfunction is by far the largest cause of fires in the UK.

Electrical Installation Inspection and Testing

Ensuring that the correct attention is given to the use and maintenance of the electrical installation is a key risk control consideration, reducing the fire risk as well as contributing to compliance with statutory obligations under the *Electricity at Work Regulations*, together with any specific premises licensing requirements which may apply. Periodic inspection and testing of the fixed electrical installation in accordance with *BS 7671: Requirements for Electrical Installations (Institution of Engineering and Technology (IET) Wiring Regulations 18th Edition)* is paramount.

- Periodic inspection and testing should be carried out by an approved contractor or a registered member appropriate for the type of installation, of a UKAS accredited electrical contractor certification or inspection body scheme, or by a company which is a UKAS accredited full member of the Safety Assessment Federation (SAFed). On completion, a recognised Electrical Installation Condition Report should be issued.

All reported defects coded C1 ("Danger present") are to be remedied immediately, or the offending component or circuit taken out of service until suitable repairs are carried out.

Items coded C2 ("Potentially dangerous") are to be remedied as a matter of urgency.

Items coded C3 ("Improvement recommended") should be given full consideration and any items coded FI ("Further investigation required")

investigated without delay and any subsequent remedial measures coded and implemented as appropriate.

Further periodic inspection and testing should be undertaken in accordance with the recommendations of the electrical installation condition report. This will normally be at intervals of between one and five years, depending on occupancy.

In addition to periodic inspection and testing, it is recommended that recorded routine checks of the electrical installation are carried out focusing on the following aspects:

- Confirmation that all previously reported defects have been rectified.
- Visual inspection for breakages, undue wear, signs of overheating, missing parts and loose fixings.
- Correct operation of switchgear and equipment including RCD's.

Ongoing clearance of combustible materials from switchgear, electric motors, light fittings and other equipment.

The frequency and type of these routine checks will depend entirely upon the nature of the premises and should be set by the electrical dutyholder. Guidance published by the IET recommends a maximum frequency of once every 12 months.

Routine checks need not be carried out by an electrically skilled person but can be accomplished by somebody who is able to safely use the installation and recognise defects.

Detailed information on electrical inspection and testing is contained in *IET Guidance Note 3* which can be purchased at [guidance-note-3-inspection-testing-9th-edition](#)

The HSE webpage <http://www.hse.gov.uk/electricity/> provides access to a wealth of information on the entire subject of electrical safety at work.

Thermographic Testing

Thermographic testing (also referred to as 'thermographic inspection' or 'thermal imaging') is widely used in a range of premises as part of predictive and preventative electrical maintenance activities, covering items such as motors, main switchgear panels, distribution boards, control equipment, busbar systems and cabling. With the thermal images obtained, it is possible to identify hot spots arising from faults such as loose connections, overloaded circuits, transformer cooling faults, overheated motor windings and other electrical defects and effect repairs at an early stage.

Despite its benefits, thermal imaging is not recognised in BS 7671 as a test instrument, as a result of which it should be considered as being in addition to, and not a replacement for, conventional electrical inspection and testing programmes. Whilst an excellent tool, thermal imaging is unable to identify defects such as physical damage to equipment and wiring, overrated fusing, and lack of earth continuity. Nevertheless, it is recognised as being an extremely effective component of a planned maintenance programme, particularly in sectors such as healthcare and financial services, where isolation of the electrical supply to facilitate conventional inspection and testing can become increasingly difficult.

There are no hard and fast rules as to the frequency of thermographic testing and much will depend on a risk assessment and the ongoing test results obtained. Initial testing frequencies will vary depending on circumstances, although commonly would be set at intervals of 12 months. As well as being carried out by specialist contractors, thermographic testing can also be conducted by in-house electrical engineers using purchased equipment and with the correct training in the use of such equipment and the analysis of the test results.

Portable Appliance Testing

As an important step towards compliance with the Electricity at Work Regulations, a system of periodic visual inspection and appropriate testing of portable electrical appliances should be introduced in line with guidance

provided by the HSE, with particular reference to the following publications freely available on the HSE website:

- *INDG236: Maintaining portable electric equipment in low-risk environments* - <https://www.hse.gov.uk/pubns/indg236.htm>
- *HSG107: Maintaining portable electrical equipment* - <https://www.hse.gov.uk/pubns/books/hsg107.htm>

The Electrical Safety Standards in the Private Rented Sector (England) Regulations 2020

These Regulations, which came into force on 1 June 2020, require landlords in the Private Rented Sector (PRS) to have the electrical installations in their properties inspected and tested by a person who is qualified and competent, at least every five years. They must also provide a copy of the Electrical Safety Condition Report (EICR) to tenants, and to the local authority if requested. Should the EICR require investigative or remedial works, landlords will have to carry this out.

Landlords of privately rented accommodation, including houses in multiple occupation, must:

- Ensure national electrical safety standards set out in the IET "Wiring Regulations" (BS 7671) are met.
- Ensure the electrical installations in their rented properties are inspected and tested by a qualified and competent person at least every 5 years.
- Obtain a report from the person conducting the inspection and test which gives the results and sets a date for the next inspection and test.
- Supply a copy of this report to the existing tenant within 28 days of the inspection and test.
- Supply a copy of this report to a new tenant before they occupy the premises.
- Supply a copy of this report to any prospective tenant within 28 days of receiving a request for the report.
- Supply the local authority with a copy of this report within 7 days of receiving a request for a copy.

- Retain a copy of the report to give to the inspector and tester who will undertake the next inspection and test.
- Where the report shows that remedial or further investigative work is necessary, complete this work within 28 days or any shorter period if specified as necessary in the report.
- Supply written confirmation of the completion of the remedial works from the electrician to the tenant and the local authority within 28 days of completion of the works.

The Regulations apply to all new tenancies from 1 July 2020 and existing tenancies from 1 April 2021.

Exceptions are set out in Schedule 1 of the Regulations

- <https://www.legislation.gov.uk/ukxi/2020/312/contents/made> and include social housing, lodgers, those on a long lease of 7 years or more, student halls of residence, hostels and refuges, care homes, hospitals and hospices and other accommodation relating to healthcare provisions.

For further information concerning the new Regulations, reference should be made to an article in "Wiring Matters" on the IET website

- <https://electrical.theiet.org/wiring-matters/years/2020/79-march-2020/the-electrical-safety-standards-in-the-private-rented-sector-england-regulations-2020/>

Similar legal requirements came into effect in Scotland in 2015 under the *Housing (Scotland) Act 2006*, for which guidance for landlords is available at <https://www.electricalsafetyfirst.org.uk/guidance/advice-for-you/landlords/scottish-private-landlords/>. It is understood that similar regulations are being considered for the PRS in Wales and Northern Ireland.