

Workplace Regulations for Electricians

Health and Safety Issues for Electricians

Around 1000 electrical accidents at work are reported to the Health & Safety Executive (HSE) every year, with approximately 25 of them fatal.

The HSE quotes these accidents as being caused by:

- The use of the poorly maintained electrical equipment.
- Work near overhead power lines.
- Contact with underground power cables during excavation work.
- Mains electricity supplies (230 volt).
- The use of unsuitable electrical equipment in explosive areas such as car paint spraying booths.

This level of accidents can be avoided by adherence to the safety standards dictated in the The Electricity At Work Regulations (1989) — EAWR, which were created under the Health and Safety at Work Act (1974), and cover the design of systems and equipment, their construction, operation, use, maintenance and work.

Employers, the self-employed and employees are all required to comply with the EWAR workplace regulations — as far as is in their control, in that it is also essential that employees play their part in ensuring their own safety.

Some regulations are absolute, which means compliance is compulsory regardless of the cost of implementation. Some regulations allow the risk to be considered against the cost and physical practicality of lowering the risk to an acceptable level — in which case the requirement is of “reasonable practicability”.

The most salient points are as follows:

- Portable Appliance Testing

Portable electrical appliances/equipment, particularly those used in harsh environments such as building sites, should be routinely inspected and tested.

- Testing timetable

There are no compulsory time periods for testing, rather the environment and purpose of equipment to be tested should be assessed in order to establish a suitable timetable. For example, an office appliance will need less frequent checks than a piece of equipment on a building site.

- What to look for

The person using the appliance or equipment must be trained to spot faults, such as faulty cords or cracked casings. Training records are useful — the HSE recommends user checks, followed up by formal inspection and a combined inspection and test. Guidelines are published in The IET and HSE's Code of Practice for In-Service Inspection and Testing of Electrical Equipment. Further advice on electrical safety in the workplace is available from the HSE.

- Working with Electrical Equipment

EWAR workplace regulations state that no one should work within a dangerous proximity to a live conductor, unless: it would be unreasonable for it not to be live; it is reasonable for the person to work on or near it whilst it is live; necessary precautions are taken to prevent injury, including the provision of suitable protective equipment where necessary.

However, it is strongly advised that people do not work on or near live conductors, therefore exceptions should be carefully considered before allowing this.

- Testing and Fault Location

This should only be carried out by competent, trained people, with work planned meticulously and the area strictly controlled.

The HSE advises that circuits should only remain live for diagnostic testing. Fault finding should be carried out with circuits dead and isolated, although it can sometimes be done using extra-low voltages of below 50V ac or 120V dc.

Workplaces are also subject to BS 7671 Requirements for Electrical Installation (IEE Wiring Regulations 17th Edition).

These include:

- Earth and Bonding

Matters relating to the bonding of extraneous–conductive parts must be considered according to individual applications. Guidance is provided under the section entitled ‘Protection Against Electric Shock’.

- 110V or 230V

110V CTE and other low voltage systems are encouraged in harsh environments such as construction sites. Outside of the UK 230V is used, however, in this country 110V CTE is still recommended. BS 7671 provides guidance on reduced low, and extra low voltage systems.

For further information, please visit:

- [The IEE website](#) for information on wiring regulations.
- [The HSE website](#) for information on electrical safety at work.

At Instalec we ensure that all of our staff are in possession of the necessary equipment to carry out work in a safe manner. All of our engineers have been given the appropriate training so protect themselves, customers and other coworkers on site. We ensure that our engineers attend regular safety training sessions to eradicate any unsafe working practices and we have adopted a responsible position regarding our employee’s welfare. All sites that we attend will have a risk assessment and method statement carried out prior to commencement of any work.

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