

Electrical Safety:

Invisible but Lethal

Electricity at Work Regulations 1989, PAT testing, safe isolation, who can carry out electrical work and safe practices around electrical hazards.



Last reviewed: August 2026



HSE · EaWR 1989 · BS 7671



England, Scotland and Wales

ukworkrights.co.uk

In Northern Ireland, similar duties come from Northern Ireland's own health and safety law. Contact HSENI (Health and Safety Executive for Northern Ireland), not the HSE.

Why electrical safety matters

- Around **1,000 electrical accidents** at work are reported each year in the UK — 25 result in fatalities (HSE)
- Electricity can kill at voltages as low as **50V AC**
- Electrical accidents cause **burns, cardiac arrest, falls from height** (when the shock causes a fall) and fires
- Common causes: **damaged equipment, unsafe installations, working on live circuits, working near overhead lines, portable equipment failure**
- The **Electricity at Work Regulations 1989** require all electrical systems to be constructed, maintained and used safely
- Only **competent persons** may carry out electrical work

▲ COMPETENCE IS EVERYTHING

Electrical work must only be done by someone who is competent — qualified, trained and experienced for the specific task. Qualifications alone do not guarantee competence for every job.

Safe electrical practices at work

1

Never work live unless absolutely necessary

Dead working is always preferable. Use the safe isolation procedure — isolate, lock off, test before touch.

2

Inspect equipment before use (visual check)

Check leads, plugs and casings for damage. Never use equipment with exposed wiring, cracked plugs or damaged switches. Report and remove from use.

3

Don't overload sockets or extension leads

Never daisy-chain extension leads. Check the rating of the lead against the total load of equipment connected.

4

Use RCDs where required

Residual Current Devices protect against electric shock when using portable equipment outdoors or in wet conditions. Never bypass them.

5

Keep away from overhead lines

Maintain safe clearance distances. Erect goal posts or bunting to mark exclusion zones. Never assume lines are insulated.

Portable appliance testing (PAT)

- PAT testing is a **combination of visual inspection and electrical testing** of portable appliances
- There is **no fixed legal frequency** for PAT testing — it depends on the environment and type of equipment
- HSE guidance: construction tools may need testing every **3 months**; office equipment every **2–4 years**
- A PAT test does **not replace daily visual inspection** — users must check equipment before every use
- Only a **competent person** should carry out PAT testing — training is available, no formal qualification required for most equipment
- Failed equipment must be **removed from use immediately** and clearly labelled — not just set aside

PAT IS NOT A LEGAL REQUIREMENT IN ITSELF

What IS required is that portable equipment is maintained safely. PAT is one way to demonstrate this — but visual inspection and good maintenance matter just as much.

Frequently asked questions

Q Can I change a plug at work?

Changing a plug is generally considered a task that can be done by anyone who is competent — i.e. knows how to do it safely and correctly. In practice, many employers require all electrical work, however minor, to go through a competent person or electrician. Follow your employer's policy.

Q What is safe isolation?

Safe isolation is the procedure for making an electrical circuit dead before working on it: isolate the supply, secure the isolation with a lock-off device, prove the circuit is dead using a properly rated test instrument. This protects against accidental re-energisation while work is in progress.

Q How do I report a defective electrical item?

Remove it from service immediately — switch off, unplug and clearly label it as faulty. Report it to your supervisor or facilities team. Do not put it back into use pending repair — even if others pressure you to do so.

Q Does my employer need to have fixed wiring inspected?

Yes. Fixed electrical installations must be periodically inspected and tested by a qualified electrician — the Electrical Installation Condition Report (EICR). Frequency depends on the type of premises: commercial premises are typically every 5 years, schools more frequently.

Delivery notes & attendance record

Before you start

Focus on the two things that actually kill: working on or near live parts, and damaged portable equipment. Ask people to check their own leads before they leave.

Questions to ask the team

1. What would you do if you found a lead with damaged insulation?
2. Who is authorised to work on electrical systems here?
3. Do you know where the isolation points are for your work area?
4. Has anyone had a shock or tingle from equipment and not reported it?

The law behind this talk

Electricity at Work Regulations 1989 (regs. 4, 13 and 14); Health and Safety at Work etc. Act 1974 s.2(2)(c)

Employers must give workers comprehensible information, instruction and training on the risks they face — Health and Safety at Work etc. Act 1974 s.2(2)(c) and Management of Health and Safety at Work Regulations 1999 reg. 10. Keep the record below as evidence that you did.

Attendance record

Topic

Electrical Safety: Invisible but Lethal

Date

Site / location

Delivered by

Actions agreed

Next talk due

Attendees

Name	Signature

Use the Print handout button to print this record. General guidance only, not legal advice. This toolbox talk is generic material and is not a substitute for a suitable and sufficient risk assessment by a competent person. Employers remain responsible for their duties under the Health and Safety at Work etc. Act 1974 and the Management of Health and Safety at Work Regulations 1999.

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0300 003 1747

hse.gov.uk

ACAS

0300 123 1100

acas.org.uk

CITIZENS ADVICE

0800 144 8848

citizensadvice.org.uk

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Electrical Safety

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