

Health and Safety

Bulletin

Managing electrical risks

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Electricity is something we take for granted – in fact very few organisations could run without it since it provides the power for heating, lighting and operating equipment. Only a small percentage of work-related fatalities are caused by contact with electricity, and the employment sectors that report the majority of these incidents are construction and agriculture.

Identifying and managing electrical risks

Electrical risks can be split into three basic categories.

Fixed Electrical Installation

BS 7671:2018 Requirements for electrical installations (also known as IET Wiring Regulations, Eighteenth Edition) provides guidance for the construction and testing of electrical installations. Any electrical installation should only be carried out by competent workers (commonly evidenced through membership of a trade body) and the customer should be provided with a certificate confirming the standard of the installation.

Additionally, BS7671 identifies how frequently fixed installations should undergo repeat inspection and testing, to check that the condition of the installation has not deteriorated and compares it with current standards. The observations and recommendations raised following the inspections are given different priority ratings depending on the level of danger associated with them. The recommended frequency of inspection varies, with construction site installations at 3 months, industrial premises at 3 years and commercial premises at 5 years.

Portable Electrical Equipment (PEE)

The starting point in the safety of portable electrical equipment is buying equipment of the right standard – this is easily done by checking the equipment is CE marked (or UKCA mark after Brexit).

After that, it is important to ensure the equipment is maintained at that standard. Although many people assume that involves just checking the Portable Appliance Testing (PAT) sticker is in date, it is far more important that each user carries out a visual check before using the equipment (an example of what a simple visual inspection check should include is shown in the figure below). Another effective precaution is the use of a residual current device (RCD), especially where the use of the equipment involves a higher risk. The risk may be associated with the equipment (such as irons, steamers) or with the environment it is being used (such as confined spaces or wet areas).

Only allowing authorised workers to repair equipment

Only workers that have the necessary competence (i.e. skills, knowledge and experience) should be authorised to carry out electrical repairs. Failing to meet this standard puts both the person carrying out the repair and the person using the equipment following the repair at risk. Work on electrical systems or equipment should also be controlled. This is to ensure the risks of the work have been minimised – for example, the electrical supply has been isolated.

Conclusion

Contact with electricity can have a range of consequences, from electric shock and burns following contact with live parts, to fire caused by faulty equipment.

Employers need to assess the specific risks that any workers have from using electrically powered equipment and implement pragmatic controls measures – these commonly involve workers taking responsibility for checking the equipment before using it.

Clwyd Associates 

Hazards - electricity

- Carry out a visual inspection before each use
 - Damage to cabling or plug
 - Non standards joints
 - Cable sheath not gripped at glanding
 - Equipment casing damaged

Recently issued health and safety information:

- HSE safety alert - failure of a road tanker pressure/vacuum relief valve
<https://www.hse.gov.uk/safetybulletins/failure-road-tanker-pressure.htm>
- RR1145 - Evidence review of the effectiveness of soft-landing systems for preventing injury from falls when working at height
<https://www.hse.gov.uk/research/rrhtm/rr1145.htm>
- Safety video on how to use stepladders safely at home
<https://www.youtube.com/watch?v=jmDVzXHpnzq>
- Safety Steps – a summary of the general principles of safe working at height
<https://accessindustryforum.org.uk/media/Safety-Steps-General-Sources-Acknowledgements.pdf>
- HSE near miss reporting book (priced)
<https://books.hse.gov.uk/bookstore.asp?FO=1356943&ACTION=BOOK&PRODUCTID=9780717667420&>

HSE inspection announced

The HSE has announced that it is planning inspections of metal fabricators between May and September 2021.

Earlier this year they wrote to relevant businesses asking them for information about how well they are managing the risks of exposure to welding fumes and metalworking fluids – the visits are planned to follow up on these requests for information.

This follows a series of initiatives HSE have launched focusing on health management in different industries.

Case Law update

This issue focuses on cases involving electrical hazards

A bakery was fined **£36,000** and ordered to pay costs of **£1,912** after a visit from the HSE resulted in four improvement notices being issued which were ignored. One of the improvement notices was associated with the electrical network which was not being operated or maintained in a safe condition

Concrete manufacturer Treanor Pujol Ltd was fined **£285,000** and ordered to pay **£56,324** in costs after HSE inspectors noticed several electrical safety concerns with the equipment in their manufacturing shed. The electrical equipment was not suitably constructed or protected

from the environment - it was left in wet, dirty, dusty and corrosive conditions, which resulted in rapid deterioration and safety features becoming inoperable over time, exposing employees to a risk of serious personal injury or death. The HSE were on site investigating two machinery related incidents - these were included in the prosecutions

Two self-employed workers received serious burns to their hands whilst using a drill to attach a pre-fabricated cowling to a cable tray when one of the fixings went into a cable, striking one of the phases and causing an explosion. An investigation by the Health and Safety Executive found that the risk assessments

and method statements for the work did not consider the risk of drilling into cable trays containing live cables, isolating the electrics to complete work, or other methods of fixing which did not involve drilling. The company were fined **£20,160** and ordered to pay costs of **£1,178**

A coating and treatment company have been prosecuted after a machine operator received an electric shock. He was checking the cables on a hardening machine which had recently been maintained and received injuries to his forearm, left palm, left arm and knee and was unable to return to work for four months. The company were fined **£3,500** with **£5,382** costs

COVID-19 news

The knowledge/goalposts/guidance associated with COVID-19 risk management are continually changing, but there are several recent significant updates

- Unsurprisingly, with lockdown easing, the Government is updating the guidance for different workplaces (available at <https://www.gov.uk/guidance/working-safely-during-coronavirus-covid-19>).

One of the most significant changes has been the focus on ventilation – either general or mechanical. The guidance suggests the use of carbon dioxide monitoring equipment in areas where it is suspected ventilation may be poor and the use of periodic “purging” –

opening all the windows and doors for a short period of time

- The UK Government is offering free access to free rapid lateral flow tests for any employer with 10 or more employees. Businesses must register at <https://www.gov.uk/get-workplace-coronavirus-tests> by 12th April 2021.

Employees will collect the tests from their workplace to use at home twice a week

- An Employment Tribunal has held that an employee was fairly dismissed after he refused to wear a face covering when visiting a client's site, while he was in

the cab of his vehicle. The client banned him from their site and his employer dismissed him for gross misconduct.

The tribunal concluded that the employer's response was reasonable, because of the difficulties caused by the site ban and the lack of remorse shown by the employee.



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