

The Legal Obligations of Employers to Maintain all Portable Electric Equipment in a Safe Condition



Issued in the interests of safety by



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Safety testing of portable electrical equipment

To meet their obligations under safety regulations employers and the self-employed should arrange for all portable electrical equipment that is their responsibility to be periodically inspected and tested.

What are the regulations'

The Electricity at Work Regulations 1989 (EAW)

The Regulations were made under the Health and Safety at Work etc. Act 1974 and set out the requirements for the safety of electrical systems and equipment.

The Regulations came into force on 1st April 1990. They require precautions to be taken against the risk of death or personal injury from electricity in work activities.

This includes equipment accessible to the public in offices, hotels, shops, etc.

Failure to comply with the requirements of the Regulations can lead to prosecution.

Who will be held responsible?

EAW Regulation 3

The Regulations specify that employers and the self-employed are responsible for the correct use and maintenance of all portable electrical equipment at their place of work and employees must co-operate as necessary to enable the provisions of the Regulations to be complied with.

'Employers' in this sense includes those people charged with the management of offices, factories, shops, schools, hospitals, hotels and all other buildings used by the public.

Those companies engaged in the manufacture, repair, hire or re-sale of portable electrical equipment are also legally responsible for the safety of the items they supply.

What premises do the Regulations cover?

The Regulations cover premises used by the public (including staff and all other employees within the premises). Typically these would include banks, offices, factories, shops, schools hospitals, etc.

All electrical systems within these premises, including portable equipment, should be maintained in a condition suitable for the use for which it is provided.

Which portable electrical equipment needs to be maintained?

EAW Regulation 4

The Regulations specify that in order to avoid danger from use of equipment, it should be

maintained throughout its working life. This maintenance would normally be part of an organisation's preventative maintenance programme and may include testing where required. Equipment that should be covered in a programme of regular inspection should include equipment intended to be held in the hand during normal use; or equipment that can be moved while in operation or which can easily be moved from one place to another while connected to the supply; or equipment that is either 18kg or less in mass and fixed or provided with means to facilitate movement and equipment that has a mass exceeding 18kg and is not provided with a carrying handle.

Who should test portable electrical equipment?

EAW Regulation 16 HSE Guidance Note GS27 and IEE Code of Practice for in-service inspection of electrical equipment.

Both visual inspection and electrical testing of equipment should be carried out by a person with adequate knowledge and practical experience of electricity and its hazards. Since this person must make judgements on the appropriate level of testing required, they must understand the operating principles of the equipment and have an adequate knowledge of the relevant safety standards.

How frequently should the equipment be tested?

HSE Guidance Note HS(R)25 IEE Code of Practice

The Regulations make no mention of the period between maintenance checks but the Health & Safety Executive advises 'regular' inspection of equipment. The period between inspection of equipment and any supplementary testing that may be required will depend not only on the type of equipment but also on its age, condition and operating environment. The IET Code of Practice for the in-service inspection for electrical equipment, provides guidance on the frequency between maintenance checks. This guidance should be referred to until sufficient experience has been built up to establish what is appropriate to the particular circumstances that the equipment is used in.

What tests must be performed?

IEE Code of Practice

The Regulations do not stipulate which tests should be carried out on electrical equipment in order to verify electrical safety. Generally it is recommended by the Health and Safety Executive that regular inspections should be undertaken supplemented by testing where necessary.

If testing is required reference should be made to the IET Code of Practice for the standard tests to undertake. It is recommended that where testing is required a person who is competent in the testing of equipment should be employed to undertake the necessary work.

How should test results be documented?

EAW Regulations 4(2) IET Code of Practice

It is advisable to establish a control system of equipment testing which includes two types of records - a register of all equipment on the premises and a log sheet for each.

The first step in compiling the register is to undertake an audit of every piece of electrical equipment within the workplace. The serial number, description, age and location of each appliance should be noted. The test date and the initials of the tester should be entered on the register each time an item of equipment is tested. One person should be made responsible for the updating of these records and for the withdrawal of defective items of equipment.

Each time an item of equipment is tested a log sheet should be completed by the person carrying out the test. This should include a description of every visual inspection and electrical test performed on the equipment together with a pass/fail result for each test. A typical log sheet is illustrated at Fig. 1.

Where should I go for more information?

The answers given above are intended for guidance only and you are strongly advised to refer to the relevant legislation and safety standards to assess your obligations.

For more information, the following publications are particularly recommended:

The Health & Safety at Work Act 1974

HSE Guidance Note HS(R)25

Memorandum of Guidance on the Electricity at Work Regulations 1989' (Tel: 01787 881165)

HS(G)107 'The Maintenance of Portable and Transportable Electrical Equipment'

IND(G)160L 'Maintaining Portable Electrical Equipment in Offices and Other Low Risk Environments'

IND(G)164L 'Maintaining Portable Electrical Equipment in Hotels and Tourist Accommodation'

Federation of Electronic Industries (FEI - Tel: 0207 3312000) 'Recommendations for Periodic Safety Checks for Business Equipment'

The Institution of Engineering and Technology (IET - Tel: 01438 313311) 'Code of Practice for In-service Inspection of Electrical Equipment'

How can ECA Members Help?

The Regulations are complex and compliance implies that the whole maintenance programme, from its initial audit through to final record documentation, should be carried out by technically qualified and experienced people.

ECA members are competent to undertake this work on your behalf to help you to comply with the Regulations. They will be willing to discuss this prospect with you. A list of members is available on request.

Initially they will carry out a full audit and list all your electrical equipment.

The form is a detailed record sheet for electrical equipment. It includes the following sections:

- Header:** ECA logo, title 'EQUIPMENT FORMAL VISUAL and COMBINED INSPECTION and TEST RECORD', and 'PAT' logo.
- Equipment Information:** 1. Register No., 2. Description of Equipment, 3. Construction Date, 4. Equipment Type, 5. Location and suitability for the environment, 6. Frequency of formal Visual Inspection, 7. Date of Purchase, 8. Voltage Rating, 9. Insulation Rating, 10. Guaranteed.
- Tester Information:** 11. Make, 12. Model, 13. Inspection, 14. Test, 15. Body, 16. Continuity, 17. Insulation, 18. Operational Check, 19. Comments/Other tests, 20. OK to Use, 21. Signature.
- Test Results Table:** A table with columns for Test Date, Name of Tester (print), and various test results (12-19).
- Footer:** 'To be completed by the client' and a note about NICEIC indicators.

Figure 1

They will then undertake a visual inspection supplemented by testing where necessary on the equipment. After completion of the inspection, and where necessary testing, the equipment will be individually marked indicating whether it has passed or failed the tests, the date of the test and the date a re-test is due.

The details of any tests undertaken will also be recorded onto a log sheet, suitable for recording the information obtained from the inspection and test carried out on that item of equipment. A check will also be made to ensure that the details entered on the test label affixed to the equipment, tally with those entered onto the log sheet.

It is important that a record of maintenance, including test results, is maintained throughout the life of each piece of equipment. Provision of these records will demonstrate that regular maintenance has been undertaken to an adequate standard, and any difference between subsequent inspections and tests, will be noted. Should there be evidence of deterioration in equipment that has previously been inspected and tested, remedial action can be taken to ensure that danger does not arise.

The records should include the log sheet illustrated above. (Fig. 1).

The type of label which will be affixed is shown opposite:

Serial No.
Date Tested
Pass/Fail
Retest Due

ECA members offer a recognised Inspection and Test Contract and a Maintenance Contract which have been registered with the Office of Fair Trading. They can also advise on a planned maintenance programmes to ensure the efficiency and safety of all electrical systems that are your responsibility.

Finally, if the equipment tested fails the inspection and test, that item of equipment should be withdrawn from service until the fault has been rectified. When withdrawn from service the item should be clearly labelled to show that it is defective and should not be used until such time that the problem has been rectified. After repair of the fault, the equipment should be re-examined before being returned to service.

The Premier Association of Electrical Installation Engineers

The Electrical Contractor's Association represents the interests of companies in England, Wales and Northern Ireland designing and installing the electrical engineering services needed in homes, schools, hospitals, factories, industrial plant and commercial premises.

These installations include traditional power and lighting outlets together with complex high technology control, security and data communications system for automated offices, industrial plant and environmental services.

Today in terms of income and assets it is amongst the five best resourced representative associations in UK industry and commerce. It has over 3,000 member firms which range from local employers with only a few operatives to national multi-service companies with many branches employing thousands - many operating worldwide.

They dominate this sector in the UK with a collective annual turnover of £3 billion per annum.

ECA Ensuring Installation Safety and Customer Satisfaction

The aim of the ECA is to ensure that electrical installation work is undertaken by qualified people to high standards of quality and safety and to terms which are equitable to the client and installer.

This relates to the technical and commercial abilities of the contractor. Members of the ECA must have been operating successfully for at least one year before joining the Association. In addition:

- Potential members are inspected and assessed to ensure that they operate sound business practices and administrative procedures.
- The installation work of member's is inspected rigorously to ensure technical compliance with relevant national standards across all aspects - design, procedures, installation, inspection, test and documentation.
- For work falling within its scope all members work to BS7671:2008 Requirements for Electrical Installations (The Institution of Electrical Engineers (IEE) Wiring Regulations).
- All members employ qualified electricians, registered with the Joint Industry Board for the Electrical Contracting Industry (JIB).
- All members work to a published Code of Fair Trading duly registered with the UK Office of Fair Trading to ensure an equitable exchange with their clients. Copies of the Code are available on request for Members of the Association.

Assurance

The ECA Guarantee of Work Scheme replaced the ECA Warranty Scheme, on 1 January 2009. The Warranty, where used, will continue to cover contracts signed before 1 January 2009 in accordance with scheme's terms and conditions.

The Guarantee of Work Scheme guarantees to customers of ECA members that subject to terms and conditions, electrical installation work failing to comply with relevant British Standards will be rectified. Products and materials selected by the member must conform to relevant Sale of Goods Legislation.

The Guarantee is compliant with TrustMark and Part P of the Building Regulations. It is effective for claims notified within six years of completion of the work and is subject to a maximum limit of £50,000 (including VAT) and £100,000 (including VAT) for multiple contracts for the same customer in any one year.

In addition an Inspection on Demand service is available, which offers an independent survey of electrical installations to both ECA contractors and customers.

The ECA Bond, which is underwritten by an insurer, provides the following cover:

Subject to the terms and conditions of the scheme, it provides the Claimant with an assurance that if the member's employment is determined for a Specified Reason, such as the insolvency of the member, the additional cost of completion will be met by the Insurer to a maximum limit of £50,000 or 10% of the members contract value shown on its certificate. The benefits of the bond are available to all clients on all contracts using 'Approved Forms'.

Certificates

Certificates are issued to each ECA member company and the contract specifier or client is recommended to request copies from the contractor to verify their validity in support of the ECA Guarantee and ECA Bond schemes.

ECA Supporting and Encouraging Professionalism in the Industry

The ECA strives to help its members provide their customers with the best possible service.

It maintains permanent service departments which provide qualified assistance, information and advice on employee relations, technical, commercial and legal matters.

In addition it operates over 50 business training courses to keep its members updated on new practices and technologies. These include courses on inspection and Test, and Portable Appliance Testing.

A network of ECA Regional Offices maintains an efficient local contact structure much appreciated by clients and members alike.



Representing the best in electrical engineering and building services



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