



LEIA Safety Information Sheet

Portable Appliance Testing

Prepared by the LEIA Safety and Environment Committee



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PREAMBLE

This Information Sheet is one of a series produced by the LEIA Safety and Environment Committee on topics relevant to the Lift and Escalator Industry. Whilst every effort has been taken in the production of these sheets, it must be acknowledged that they should be read in conjunction with the relevant legislation, codes of practice etc. They should not be taken as an authoritative interpretation of the law but guidance to it.

INTRODUCTION

Portable appliance testing (PAT) is the term used to describe the examination of electrical appliances and equipment to ensure they are safe to use. This affects LEIA members both in the equipment located within their premises (computers, office equipment, kitchen equipment and workshop equipment) and the electrically powered equipment used on customer premises and sites (drilling machines and other powered equipment)

Legal requirements

The Electricity at Work Regulations 1989 require that any electrical equipment that has the potential to cause injury is maintained in a safe condition. However, the Regulations, do not specify what needs to be done, by whom or how frequently (consequently the regulations do not make inspection or testing of electrical appliances a legal requirement, nor do they make it a legal requirement to undertake annual testing).

The frequency of inspection and testing depends upon the type of equipment and the environment it is used in. For example, a power tool used on a construction site should be examined more frequently than a computer on a desk.

Table 1 gives a suggested initial frequency for the various types of checks on portable electrical equipment. It gives suggested starting intervals when implementing a maintenance plan. Where one figure is given, this is a guide for anticipated average use conditions; more demanding conditions of use will require more frequent formal visual inspections, and/ or combined inspections and tests. Where a range is shown, the shorter interval is for more demanding conditions of use and the longer interval is for less demanding conditions.

Alternatively, members may wish to seek advice from a competent person who has the knowledge and experience to make the necessary judgement, e.g. original appliance manufacturers or suppliers.

A risk-based approach is recommended to determine frequencies of inspection and testing.

Most electrical safety defects can be found by visual examination but some types of defect can only be found by testing. Consequently, a combination of these is preferred. The types of inspection are:

- a. User checks (visual)
- b. A visual examination by a competent person
- c. Formal visual inspection and testing combined

Type of business		User checks	Formal visual inspection	Combined inspection and test
Equipment hire		N/A	Before issue/after return	Before issue
Battery operated equipment (less than 40 V)		No	No	No
Extra low voltage (less than 50 V ac), telephone equipment, low-voltage desk lights		No	No	No
Construction	110V equipment	Yes, weekly	Yes, monthly	Yes, before first use on site then 3-monthly
	230V equipment	Yes, daily/every shift	Yes, weekly	Yes, before first use on site then monthly
	Fixed RCDs	Yes, daily/every shift	Yes, weekly	Yes, before first use on site, then 3-monthly (portable RCDs – monthly)
	Equipment site offices	Yes, monthly	Yes, 6-monthly	Yes, before first use on site then yearly
Heavy industrial/high risk of equipment damage (not construction)		Yes, daily	Yes, weekly	Yes, 6–12 months
Light industrial		Yes	Yes, before initial use then 6-monthly	Yes, 6–12 months
Office information technology rarely moved, eg desktop computers, photocopiers, fax machines		No	Yes, 2–4 years	No if double insulated, otherwise up to 5 years
Double insulated <input type="checkbox"/> (Class II) equipment moved occasionally (not hand-held), eg fans, table lamps		No	2–4 years	No
Hand-held, double insulated <input checked="" type="checkbox"/> (Class II) equipment, eg some floor cleaners, some kitchen equipment		Yes	Yes, 6 months – 1 year	No
Earthed (Class I) equipment, eg electric kettles, some floor cleaners		Yes	Yes, 6 months – 1 year	Yes, 1–2 years
Cables, leads and plugs connected to Class I equipment, extension leads and battery charging equipment		Yes	Yes, 6 months – 4 years depending on type of equipment it is connected to	Yes, 1–5 years depending on the equipment it is connected to

Cables, leads and plugs connected to Class II equipment should be maintained as part of that equipment. Cables leads and plugs not dedicated to an item of equipment should be maintained as individual items as appropriate.

Over time, when you look at the results of user checks, formal visual inspections and portable appliance tests you will notice trends. These may tell you that you need to look at or test electrical equipment more or less often, depending on the number of problems being found.

If electrical equipment is grouped together for testing at the same time, you should use the shortest testing interval in the group rather than the longest.

Alternatively, it may be appropriate to group your electrical equipment by testing interval.

The IET Code of Practice has a similar table but with the information presented in a slightly different manner. In some instances, with more detail and specifics, however, the two sets of information are considered to be consistent with each other.

Table 1 and Notes Suggested initial maintenance intervals

(Taken from HSG107 Maintaining portable electrical equipment)

Labelling

There is no legal requirement to label equipment that has been inspected or tested, nor is there a requirement to keep records of these activities. However, a record and / or labelling can be a useful management tool for monitoring and reviewing the effectiveness of the maintenance scheme – and also to demonstrate that a scheme exists. Some clients may insist tools on their sites are labelled.

New Equipment

New equipment should be supplied in a safe condition and not require a formal visual examination or test. However, a simple visual check is recommended to verify the item is not damaged before the equipment is used for the first time.

Training

The person doing testing work needs to be competent to do it. In many low-risk environments, a sensible (competent) member of staff can undertake visual inspections if they have enough knowledge and training. However, when undertaking combined inspection and testing, a greater level of knowledge and experience is needed, and the person will also need:

- the right equipment to do the tests
- the ability to use this test equipment properly
- the ability to properly understand the test results

SUMMARY

The law simply requires an employer to ensure that their electrical equipment is maintained in order to prevent danger. It does not say how this should be done or how often. Employers should take a risk-based approach, considering the type of equipment and what it is being used for. If it is used regularly and moved a lot e.g. a floor cleaner or a kettle, testing (along with visual checks) can be an important part of an effective maintenance regime giving employers confidence that they are doing what is necessary to help them meet their legal duties.

For any clarification of this information sheet contact your company Safety Advisor or the LEIA Safety and Training Manager.

References:

Maintaining portable electric equipment in low-risk environments INDG236 (Rev 3)

<http://www.hse.gov.uk/pubns/indg236.htm>

Maintaining portable electrical equipment HSG107 (Third edition)

<http://www.hse.gov.uk/pubns/books/hsg107.htm>

Memorandum of guidance on the Electricity at work regulations HSR25 (Third edition)

<http://www.hse.gov.uk/pubns/books/hsr25.htm>

Electricity at work: Safe working practices HSG85 (Third edition)

<http://www.hse.gov.uk/pubns/books/hsg85.htm>

Frequently Asked Questions on the HSE website:

www.hse.gov.uk/electricity/faq-portable-appliance-testing.htm).