# Title: Portable Electrical Appliance Testing

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**Contents**



## 1. Introduction

This guidance describes the arrangements for maintaining portable electrical equipment. The Electricity at Work regulations requires all electrical equipment to be properly maintained. This means it must be checked regularly. This will include informal checks by users as well as periodic formal inspections and where appropriate tests.

## 2. What is portable electrical equipment?

Equipment that is connected to an electrical supply and has a lead and plug attached. As well as desk lamps, fans, kettles, vacuum cleaners, televisions and portable tools. It also applies to equipment that may be moved occasionally such as fridges, photocopiers, glass display cabinets where they are connected to the mains via a plug.

## 3. Why inspect and test?

Many injuries are caused each year by poorly maintained electrical equipment. These range from fires caused by damaged cables to electric shocks from poor wiring connections. Periodic inspection/testing can reduce the risk of an incident occurring and is an essential part of any planned preventive maintenance programme.

## 4. Who is responsible and what are the responsibilities?

It is the responsibility of the manager responsible for the building to arrange for a programme of inspection and testing. Managers are responsible for ensuring that all electrical equipment is formally inspected and where necessary tested.

### 4.1. How can I meet this responsibility?

There are two ways:

- Appoint a competent contractor to inspect and test electrical equipment (e.g. through property consultant)
- Establish an in-house system with a trained member of staff.

### 4.2. How do I establish an in-house system?

Appoint an employee to undertake inspection and testing and ensure that they are competent. Managers need to be aware that not everyone will be suitable for this type of work. Normally this would mean attending an approved portable appliance inspection and testing course.

### 4.3. What do I have to do as the competent person for an in-house system?

- Decide how to record the formal inspection and testing
- Decide the frequency of inspection/testing
- Establish a system for taking damaged or faulty equipment out of use
- Initiate a formal inspection and testing programme
- Report on outcomes and further action needed (e.g. arrange repair or disposal of unsafe equipment) to the appropriate manager.

## 5. How do I decide how often to inspect and test?

Undertake an assessment using the guidance as a starting point. This indicates the initial minimum frequency of inspection and testing. More demanding conditions of it will require more frequent inspections and, where required, testing.

Use the following as guidance:

- Review any previous records of maintenance to identify equipment that may need more frequent inspection and testing due to its condition.
- The manufacturers recommendations
- The age and condition of the equipment
- The working environment (wet, dusty, flammable, corrosive or layout of equipment) e.g. for desktop computer, are cables secure or hanging loose?
- Frequency of use and how used e.g. hand-held equipment is likely to be subjected to more wear as it is picked up and put down more frequently
- Any modifications or repairs to the equipment

### 5.1. What checks, inspections and testing are required?

- **User checks**

Managers should ensure user checks are in place.

- **Formal visual inspection**

The formal visual inspection is more detailed than a user check. This inspection will identify most of the potentially dangerous faults and a maintenance regime should always include it.

Faults to identify:

- Damage to the plug such as chipped casing, wires exposed, bent metal pins
- Damage to the lead- worn, cut or frayed cable
- The wrong fuse being used or no fuse at all
- Poor connection or loose screws/wires to the plug
- The cable clamp not properly securing the lead
- Use of exposed strip connector blocks or taped cabling/wiring should not be permitted
- Burn marks on either plug or cable
- Damaged extension leads
- Evidence of water leakage, such as kettles, walls or floors indicated by staining or water marks

- **Electrical testing or portable equipment**

Some faults cannot be seen just by looking, particularly a poor earth connection. Two types of tests are used. The first checks the integrity of the earth connection (class 1 equipment) and the second the insulation of any live parts (class 1and 2 equipment). The testing requires a propriety portable appliance tester. Proprietary testing equipment is available from specialised electrical suppliers.

Normally the electrical test is done at the same time as the formal visual inspection, unless the assessment indicates a more frequent formal visual inspection is required.

## 6. How can I record the formal inspection/tests?

A number of methods are available:

- Using the record of formal inspection and electrical test
- Using adhesive labels which will detail the date of inspection/test and the date of the next inspection/test
- Some proprietary portable appliance testers are able to record the information and produce a print out

## 7. What about equipment brought into work between checks?

New equipment should have a 'user check' before use and arrangements made to include the appliance in the inspection and testing regime. Second hand equipment and any equipment brought into the establishment by service users and employees should be fully inspected/tested (as appropriate for the category of equipment) before being brought in to use.

## 8. Suggested initial maintenance intervals

| Type of business | User checks | Formal visual inspection | Combines inspection and test |
|---|---|---|---|
| Equipment hire | N/A | Before issue/after return | Before issue |
| Battery operated equipment (less than 40V) | No | No | No |
| Extra low voltage (less than 50V ac), telephone equipment, low-voltage desk lights | No | No | No |
| Heavy industrial/high risk of equipment damage | Daily | Weekly | 6-12 months |
| Light industrial | Yes | Before initial use then 6 monthly | 6-12 months |
| Office information technology rarely moved e.g. desktop computers, photocopiers, fax machines | No | 2-4 years | No if double insulated, otherwise up to 5 years |

| | | | |
|---|---|---|---|
| Double insulated (class 2) equipment moved occasionally (not hand held) e.g. fans, table lamps | No | 2-4 years | No |
| Hand-held, double insulated (class 2) equipment e.g. some floor cleaners, some kitchen equipment | Yes | 6 months-1 year | No |
| Earthed (class 1) equipment, e.g. electric kettles, some floor cleaners | Yes | 6 months- 1 year | 1-2 years |
| Cables, leads, plugs connected to class 1 equipment, extension leads and battery charging equipment | Yes | 6 months- 4 years depending on type of equipment it is connected to | 1-5 years depending on the equipment it is connected to |

Any questions concerning this policy please contact.
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or

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