Portable Electrical Equipment

Maintenance

(1) User Visual Checks

A quick check of appliances before use by the user will assist in identifying problems as early as possible. Users should be instructed to look for, and report, the following:

- Damage to the cable, such as worn or split cables;
- Damage to the plug, such as cracks, cables being loose, bent pins or loose screws;
- Any scorch marks on the equipment, plug or socket that may signify a short circuit has occurred.

(2) Formal Visual Inspection

Managers must ensure that a visual inspection of all portable appliances is carried out regularly and by someone who is appropriately trained to recognise the following conditions:

- Damage, e.g. cuts, abrasions, to the cable covering;
- Damage to the plug, e.g. casing is cracked and the pins are bent;
- Non-standard joints including taped joints in the cable;
- The outer covering (sheath) of the cable not being gripped where it enters the plug or the equipment. Check to see if the coloured insulation of the internal wires is showing;
- Equipment that is being used in conditions where it is not suitable, e.g. a wet or dusty workplace;
- Damage to the outer cover of the equipment or obviously loose parts or screws;
- Overheating, burn marks or staining to the casing.
- In addition visual inspections should include removal of the plug cover to check that:
    - The correct fuse is fitted;
    - The cord grip is holding the outer (sheath) of the cable tightly;
    - The wires, including the earth where fitted, are attached to the correct terminals;
    - No bare wires are visible other than at the terminals;
    - There are no signs of internal damage, overheating or entry of liquid, dust or dirt (NB! This does not apply to multi-plugs where only the fuse can be checked).
- All the above checks must also be applied to extension leads.
- Portable appliances or electrical equipment, which have an electrical supply lead longer than 2 metres.

Please see page 3 for a checklist that should be used for the visual inspection of portable appliances.

(3) Combined Testing and Inspections

Corporate Facilities Management administer a periodic testing and inspection service using approved electricians. The intervals between such tests are not specified by legislation, however the length of time should take account of the circumstances and use, and type of equipment. Managers should consult the guide on page 4 when determining testing and inspection intervals.

Combined testing and inspection should be carried out where there is reason to suspect the equipment may be faulty or damaged but this cannot be confirmed by visual inspection, and; after any repair modification or similar work to the equipment, when its integrity needs to be established.

Combined inspection and testing can be carried out at the start of a maintenance system to establish the initial condition of the equipment.

Training Requirements

It is a the responsibility of each Department to ensure that those staff nominated to carry out Formal Visual Inspections receive appropriate training to enable them to carry out the tasks outlined in the paragraph above about formal visual inspections.

Summary

This summary serves as a checklist for managers to assist with ensuring compliance with the Electricity at Work Regulations. It should only be used after reading this guidance document.

Within departments every designated site manager, or manager to whom the responsibilities are delegated, should ensure the following:

- All alterations to an electrical system being carried out in their area are with written permission of departments and the name of the officer responsible for supervising the work;
- Any system is correctly isolated for maintenance work;
- The electrical intake cupboard is free from items which could affect access;
- Where appropriate ensure maintenance work is carried out by a competent person;
- In high risk environments only 110 volt equipment is used;
- RCD's are available and used;
- Equipment is suitable for the task and where necessary operators are trained for their use;
- Where appropriate Users conduct user checks before use;
- Electrical equipment is subjected to regular Formal Visual inspection and Combined Inspection and testing on a regular basis;
- Testing is arranged with Corporate Facilities Management;
- Monitor to ensure that inspections are taking place regularly;
- Ensure those staff who are to undertake Formal Visual Inspections are properly trained for the task;
- Records are kept and maintained;
- Staff are aware of the procedures for reporting defects.

VISUAL INSPECTION OF PORTABLE APPLIANCES

(**NB!** Most of these checks also apply to extension leads and their plugs and sockets)

Details of Appliance: _____

	CHECK	YES/NO
(1)	Is there damage, e.g. cuts, abrasion to the cable covering?	
(2)	Is there damage to the plug? e.g. is the casing cracked or are the pins bent	
(3)	Are there any non-standard joints including taped joints in the cable?	
(4)	Is the outer covering (sheath) of the cable not being gripped where it enters the plug or the equipment? Look to see if the coloured insulation of the internal wires is showing	
(5)	Is the equipment being used in conditions where it is not suitable? e.g. a wet or dusty workplace	
(6)	Is there damage to the outer cover of the equipment or obvious loose screws or parts of the plug?	
(7)	Is there any evidence of overheating? e.g. burn / scorch marks or staining	
(8)	Does the length of the power supply cable extend beyond 2 metres?	
(9)	Formal inspection could also include removal of the plug cover and asking the following: **NB!** This does not apply to moulded plugs where only the fuse can be checked	
a	Is a proper fuse being used? (not a piece of wire or a nail etc)	
b	Is the correct rated fuse fitted?	
c	Is the cord grip holding the outer part (sheath) of the cable tightly?	
d	Are the wires, including the earth where fitted, attached to the correct terminals?	
e	Are there any bare wires visible other than at the terminals?	
f	Are the terminal screws tight?	
g	Are there signs of internal damage, overheating or entry of liquid, dust or dirt?	

If the answer to questions (1) (2) (3) (4) (5) (6) (7) (8) (9)e or (9)g is YES, or if the answer to questions (9)a, b, c, d, f is NO the equipment should be labelled as faulty and taken out of service immediately. The defect sheet should be handed to the manager immediately.

Comments / Action(s) to be taken:

Signature: _____ **Date:** _____

OFFICES AND OTHER LOW-RISK ENVIRONMENTS ONLY SUGGESTED INITIAL* INTERVALS

This table is reproduced from HSE leaflet INDG236 “Maintaining portable electrical equipment in Offices and other low-risk environments”

Equipment / Environment	User Checks	Formal Visual Inspection	Combined inspection and testing
Equipment hire	N/A	Before issue / after return	Before issue
Battery operated: (Less than 20 volts)	No	No	No
Extra low voltage: (less than 50 volts AC) eg telephone equipment, low voltage desk lights	No	No	No
Information Technology: eg desktop computers, VDU screens	No	Yes, 2 - 4 years	No if double insulated - otherwise up to 5 years
Photocopiers, fax machines: NOT hand-held. Rarely moved	No	Yes, 2 - 4 years	No if double insulated - otherwise up to 5 years
Double insulated equipment: NOT Hand-held. Moved occasionally, eg fans, table lamps, slide projectors	No	Yes, 2 - 4 years	No
Double insulated equipment: HAND-HELD eg some floor cleaners	YES	Yes, 6 months - 1 year	No
Earthed equipment (Class 1): eg electric kettles, some floor cleaners	YES	Yes, 6 months - 1 year	Yes, 1 - 2 years
Cables (leads) and plugs connected to the above. Extension leads (mains voltage)	YES	Yes, 6 months - 4 years depending on the type of equipment it is connected to	Yes, 1 - 5 years depending on the type of equipment it is connected to.

*** NB:** Experience of operating the maintenance system over a period of time, together with information on faults found, should be used to review the frequency of inspection.

It should be used to review whether and how often equipment and associated leads and plugs should receive a combined inspection and test