Visual Inspection of Portable Appliances

ENSURE YOU DISCONNECT ALL EQUIPMENT FROM THE POWER SUPPLY BEFORE INSPECTION!

'What can go wrong?'
The leads and plugs, or sometimes the equipment itself, can become damaged. This may result in an electric shock. Electric shocks can kill. Damaged equipment can also cause fires.

'How can I tell if it is damaged?' By looking! This is the most important maintenance precaution. Around 95% of faults or damage can be found just by looking (visual inspection).

First, identify your equipment and where and how it is used. The things you are looking for on the equipment, the cable and plug (after disconnecting it) are signs of:

• damage, eg cuts, abrasion (apart from light scuffing) to the cable covering;

• damage to the plug, eg the casing is cracked or 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. Look to see if the coloured insulation of the internal wires is showing;

• equipment that has been used in conditions where it is not suitable, eg a wet or dusty workplace;

• damage to the outer cover of the equipment or obvious loose parts or screws; and

• overheating (burn marks or staining).

In addition, formal inspection could include removal of the plug cover and checking that a fuse is being used (i.e. it is a proper fuse not a piece of wire, a nail etc).
‘Ask yourself the following questions?’

**Suitability**
- Is the equipment suitable for its use?
- Is it suitable for the task, the workplace and the environment?
- If the equipment is found to be damaged, an assessment should be made to determine the suitability of the equipment for that particular use or location.

**Housekeeping**
- Are the cables located so they will not be damaged or cause a trip hazard?
- Is the plug accessible so it can be easily unplugged?
- Are extension leads (if used) used safely?
- Is there enough space around the equipment for ventilation and to prevent cords being bent tightly?
- Is the equipment well away from cups, food and contamination?

**Plug - Remove the plug cover (unless it is a moulded type)**
- Is it a shrouded plug, which prevents someone inadvertently touching metal on the pins when pulling the plug out? If not, replace it with a suitable shrouded plug.
- Are the top and bottom half different colours (originally from two different plugs)?
- Are there any signs of overheating (charring or black marks) or corrosion inside the plug?
- If the appliance is Class 1, is an earth connection present?
- Is it wired correctly and are the wires secure? (See the plug diagram for more information).
• Check for loose strands of wire and ensure only a small amount of copper wire is visible, and the insulation cable has not been removed too far

• Are the terminal screws tight?

• Does it have a fuse of the correct fuse rating?

• Is the fuse securely gripped?

• Is the cable clamp grip to the outer sheath?

• Are the terminal screws tight?

• Refit the plug cover securely.

**Moulded plugs:**

• Does it have a fuse of the correct fuse rating? (This will be marked on the plug head).

• Is the fuse securely gripped?

‘*How do I know if equipment is earthed or not?’*

Equipment which is not earthed is usually called ‘double insulated’ or ‘Class II’ and is marked with the ‘double square’ symbol. The cable has two wires. Equipment not marked with this symbol is usually earthed and is called ‘Class I’. The cable has three wires.

**Installation**

The equipment must be installed and used in accordance with the manufacturer’s instructions. Labels and covers fitted to the plug pins must be removed before being plugged into a socket.
Terminal connections of a 3 pin plug

![Diagram of a 3 pin plug showing terminal connections: Live wire (Brown), Neutral wire (Blue), Earth wire (Green and Yellow), Fuse, Outer insulation, Cable grip.]

**Fuse Ratings**

<table>
<thead>
<tr>
<th>Equipment Power Rating</th>
<th>Fuse Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 500 Watts</td>
<td>3 amp fuse</td>
</tr>
<tr>
<td>500 - 1000 Watts</td>
<td>5 amp fuse</td>
</tr>
<tr>
<td>1000 - 2000 Watts</td>
<td>10 amp fuse</td>
</tr>
<tr>
<td>2000 - 3000 Watts</td>
<td>13 amp fuse</td>
</tr>
</tbody>
</table>

**Stickers**

In accordance with the University Portable Electrical Inspection and Testing Policy Guide, a Visual Inspection sticker should be put on the appliance and a record kept. Showing the date of inspection, the person who carried out the inspection and details of the appliance.

**VISUAL SAFETY INSPECTION**

DATE..................
DEPT..................

IF YOU HAVE ANY DOUBT ABOUT THE SAFE CONDITION OF ANY ELECTRICAL EQUIPMENT:-

1. ENSURE IT CANNOT BE USED
2. LABEL IT WITH A WARNING NOTICE
3. REPORT IT IMMEDIATELY