



NFRN

Federation of Independent Retailers

Portable Electrical Appliance Testing (PAT)



Portable Electrical Appliance Testing (PAT).

- The law requires Independent Retailers to ensure that electrical equipment is maintained in order to prevent any electrical or fire hazard within their business. This can be carried out by a competent person with a “practical knowledge and understanding of electrical applications”.
- The law doesn’t indicate how or how often a PAT (Portable Electrical Appliance) test should be carried out. IET – the Institute of Engineering and Technology Code of Practice (revised edition) indicated that the UK are “overly maintaining” electrical appliances to the tune of £30 million per annum.
- IET also indicates that it is not a “Legal Requirement” to carry out PAT (Portable Electrical Appliance Testing) on every electrical appliance annually.
- IET advises businesses to take a “proportionate, risk assessment based approach to testing” which should be usage, type of equipment and the environment the equipment is being used in.
- Manufacturers of electrical appliances will provide instructions as to how often their appliances should be checked, eg earthed equipment – kettles, portable electrical heaters – should be formally visually checked from 6 months to 1 year and combined inspection and test every 1 to 2 years.
- Independent Retailers that carry out inspections of their equipment (PAT) should weigh the risk against the trouble, time and money to control a risk. If the risk of injury is very small compared with the cost to reduce it, no action is necessary. However, “Trouble, time and money” must grossly outweigh, not balance, the risk.
- Cables, plugs and extension leads should be formally visually inspected between 6 months to 4 years depending on the equipment it is connected to and combined inspection and test between 1 and 5 years depending on the equipment it is connected to.
- Independent Retailers should record findings from inspections - a sample template to record findings is available in the NFRN Health and Safety module, page 34.
- Recorded findings of inspections can also be used as an inventory of the number of appliances being used by the business and ensure faulty equipment is removed from usage.

Portable Electrical appliances should be subject to 3 levels of inspection:

- A user check
- A formal visual inspection
- A combined inspection and test



A User Check

At least once per week – make a “visual” check of the electrical appliances using the following method:

- | | | | |
|---|------------------------------|-----------------------------|-----------------------------------|
| Is the plug casing in good condition? | YES <input type="checkbox"/> | NO <input type="checkbox"/> | NOT SURE <input type="checkbox"/> |
| Are the plug pins bent? | YES <input type="checkbox"/> | NO <input type="checkbox"/> | NOT SURE <input type="checkbox"/> |
| Are there any bare wires visible? | YES <input type="checkbox"/> | NO <input type="checkbox"/> | NOT SURE <input type="checkbox"/> |
| Is the cable covering free from cuts and abrasions? | YES <input type="checkbox"/> | NO <input type="checkbox"/> | NOT SURE <input type="checkbox"/> |
| Is the cable long enough to reach the electrical socket but short enough that it doesn't present a trip hazard? | YES <input type="checkbox"/> | NO <input type="checkbox"/> | NOT SURE <input type="checkbox"/> |
| Are there any “taped” joints in the cable? | YES <input type="checkbox"/> | NO <input type="checkbox"/> | NOT SURE <input type="checkbox"/> |
| Are there any “over heating” or “burn” marks visible on the plug, socket or equipment? | YES <input type="checkbox"/> | NO <input type="checkbox"/> | NOT SURE <input type="checkbox"/> |

If the answer to any of the questions is “unsure” – please seek support from a person that has a “basic knowledge and understanding” of electrical applications.

If the visual inspection demonstrates signs of action required and you have a practical understanding of electric, please work towards active repair of the appliance.

Please remove appliances or cease using sockets if faults are detected until the problem has been resolved.

Formal Visual Inspection and Tests.

The following task should be carried out by a person that has a basic knowledge and understanding of electrical applications:

- If an appliance has been removed due to a possible fault, please remove the plug cover (if not a moulded plug) and check if the correct fuse is included.
- Do not take apart the equipment.
- Some faults with electrical equipment can happen due to the loss of earth continuity, for example wires breaking or loosening within the equipment.
- Some faults can also happen due to the insulation breaking down.
- There could be a fault due to dust containing metal particles causing a short circuit (please see next slide for further information).




Combined Testing and Inspection.

The following task should be carried out by a person that has a “basic knowledge and understanding” of electrical appliances when there is reason to suspect the equipment is faulty, damaged or contaminated BUT this is not visible on inspection:

- Testing may not be expensive in “low risk” premises like retail businesses and offices.
- IET advises businesses to take a “proportionate, risk assessment-based approach to testing” which should be “usage, type of equipment and the environment the equipment is being used in”. (Please follow the Risk Assessment page 18- 22)
- A visual risk assessment of a kettle could indicate that it is safe to use, however, if the kettle’s usage is excessive and continuous throughout the day – there could perhaps be a significant risk of someone getting scalded with the hot water and perhaps a more suitable and sufficient piece of equipment could be a hot water geezer in terms of preventative and protective measures.
- Independent Retailers that carry out Inspections of their equipment (PAT) should weigh the risk against the trouble, time and money to control a risk. If the risk of injury is very small compared with the cost to reduce it, no action is necessary. However “Trouble, time and money” must grossly outweigh, not balance, the risk.
- Independent Retailers should record findings from inspections - a sample template to record findings is available in the NFRN Health and Safety module – page 34.
- Recorded findings of inspections can also be used as an inventory of the number of appliances being used by the business and ensuring faulty equipment is removed from usage.

REGUL 15(1)(b)(iii) | Statutory Health & Safety

 NFRN

Portable Electrical Appliances: Register

Portable appliance testing (PAT) is the phrase used to describe the test of electrical appliances and equipment to ensure they are safe to use. Electrical safety defects and assessments can be carried out by a competent person (owner of the business), should they have knowledge and understanding of the appliances they operate. The tests should comprise of operating the equipment, understanding the results and, should there be any defects, to remove the equipment from being operated.

The checklist below can be used as part of the electrical maintenance checklist on an annual basis.

Please note, hard wire electrics within the building should be tested by a Qualified Electrician only.

Equipment Description and Identification Number	Current or Observed Location	Inspection / Test Frequency	Date of Inspection / Test	Next Inspection / Test Due

Defective appliances must be taken out of use immediately and labelled "Do Not Use" until they have been repaired or replaced.

34



Advantages and constraints of purchasing PAT testing.

ADVANTAGES OF PURCHASING PAT TESTING	CONSTRAINTS OF PURCHASING PAT TESTING
It will indicate poor earthing, damaged cables and cracks on plugs.	It can be expensive.
It will highlight incorrect fuses.	Equipment can be misused or overused in between testing.
It will identify hazards.	All faults, including trivial ones, are included in the test.
It will give a retailer peace of mind in terms of formalising the test.	The testing equipment has not been properly calibrated before testing equipment.