Faculty of Environment

Code of Practice for In-service Inspection and Testing of Electrical Equipment (PAT)

The Faculty has developed a schedule of Portable Appliance Testing (PA Testing) based on University Protocol, but also taking into consideration recommendations in the IET Code of Practice and by assessing the risks associated with the use of the equipment.

What is PA Testing?

Portable Appliance Testing or PAT is the term used to describe the examination of all electrical appliances and equipment to ensure they are safe to use (including all items that are plugged into the mains – whether handheld, portable or static). Most electrical safety defects can be found by visual examination but some types of defect can only be found by testing.

The law requires that all electrical equipment used in a place of work must be maintained to a safe standard. PAT is the chosen method for ensuring that all electrical equipment within the Faculty is safe to use and proven to be so.

A typical test will involve both a visual and an electrical test but there is also a responsibility on the user to check equipment before use.

What is a User Check?

Before electrical equipment is plugged in and switched on it should be checked for any damage. The user should check the following.

- **The Plug**: No cracks or fractures, pins intact, plug top not loose. No exposed brown or blue conductors where cable enters plug. No scorch marks showing overheating.
- **The Cable**: Sheathing intact. No fraying, nicks or cuts in the outer cable, no exposed inner cables. No sign of crushing.
- **The Casing**: No cracks, fractures, holes or other damage to the casing. No loose panels or covers. No missing covers. No corrosion to any part of equipment. No exposed brown or blue cores where cable enters equipment.
- **The Appliance**: Does it switch on and off properly. Does it appear to be working properly?
- **The Environment**: Is the equipment suitable for use in its environment? Is it suitable for the job being undertaken?

*If there is any concern about damage through a user check please let your school/institute PA Tester know.*

What is a Visual Inspection?

A visual inspection is a formal recorded inspection by a qualified person. This will involve the same checks as above plus additional checks such as the fuse and wiring inside the plug.

What is an Electrical Test?

An electrical test of equipment is undertaken using a Portable Appliance tester. This records the earthing and insulation of the equipment, among other things, and so tests what cannot be detected by the visual test.

Once formal testing has been done, if the equipment is deemed safe to use, a green dated label is stuck onto the casing, cable or plug. This will indicate when the equipment should be re-tested. It does not mean the equipment is unsafe to use after this date.
If the equipment is unsafe to use and cannot be repaired it will be marked with a red label and removed for disposal.

### Schedule of Frequency of Inspection and Testing

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User Checklist

- Is the user aware of any existing fault with the equipment?
- Switch off and disconnect the equipment if necessary
- Look at the flex (cable) - is it free from cuts, fraying, crushing or other damage?
- Look at the plug- is the flex secure in the plug with no exposed inner cables? Are there any cracks? Are the pins damaged? Is the cap secure?
- Look at the Equipment- is it free from cracks, broken parts or exposed working?
- Is the equipment suitable for the environment it is to be used in?
- If there is any damage or concern about the equipment – please report it to the person responsible for PA testing in your area
  
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Notes:

Workshops and research laboratories are deemed the most high risk environments within the Faculty, but as access to them is restricted to Staff or trained users then the testing regime is not as frequent as might be assumed. However; workshops and laboratories that contain equipment requiring the use of, or coming into contact with water are deemed to be higher risk therefore the frequency of testing has been increased to 6 monthly.

Offices and meeting rooms are low risk areas and with the exception of hand-held equipment testing can be reduced to 24 months. The IET Code of Practice state that Class II (double insulated) equipment in an office never needs to be electrically tested, but it does require a visual inspection every 24 months; we have decided a full test would be needed in this case.