

ECD-HS-PO-412-12-13

Code of Practice for In-Service Inspection and Testing of Electrical Equipment Including PAT (Portable Appliance Testing)

The **Estates and Facilities Department** currently organise and manage tests for a variety of Schools and Departments across the University, recharging the departments on a 'cost only' basis through an IDT. If you would like the Estates team to arrange the PAT testing for your department please contact the Engineering Supervisor **Mark Wykes** on extension 4338, email wykesm@aston.ac.uk or the Estates Helpdesk, estates_helpdesk@exchange.aston.ac.uk.

This document recognises the changes brought about with the introduction of the In-Service Inspection and Testing of Electrical Equipment (4th amendment) COP. However the testing of fixed appliances (appliances fed from supplies NOT via a 13a socket) are not covered by this document and will be tested by a variety of Contractual service agreements and rolling annual Electrical Installation Tests as assessed by risk.

If you would prefer to arrange the testing yourself directly through the external contractors you can obtain the details of our approved supplier from the above contact.

If you are responsible for organising any University 'Events' please note that there is a separate 'Events, Temporary Internal Electrical Supplies' Procedure you will need to read and implement. This can also be located on the ECD website.

Below you will find further details about the process of PAT Testing, the Universities set out regulations, your responsibilities and how you can maintain good electrical safety within your department.

What is PAT Testing?

PAT testing or Portable Appliance Testing is an important part of any health & safety policy. The Electricity at Work Regulations place a legal responsibility on employers, employees and self-

employed persons to comply with the provisions of the regulations and take reasonably practicable steps to ensure that no danger results from the use of such equipment. The Health & Safety at Work Act (1974) places such an obligation in the following circumstances:

- Where appliances are used by employees.
- Where the public may use appliances in establishments such as hospitals, schools, hotels, shops etc.
- Where appliances are supplied or hired.
- Where appliances are repaired or serviced.

Why is PAT Testing Important?

Departments and Schools have a duty under the Regulations in respect of their equipment (ie they are 'duty holders'), and the University has an overall responsibility as the main duty holder.

There is a need to consider not only the risks of death or injury from electrical burns or electrocution, but also the risks from smoke, fire or explosion caused, for example, by electrical sparking or by electrical malfunctions leading to overheating and combustion. Possible associated risks also need consideration, such as the location of equipment, and factors like the presence of damp, corrosive, or explosive atmospheres.

What am I as Head of Department (or appointed representative) responsible for?

All Departments/Schools are responsible for ensuring both that their own portable electrical equipment is tested and maintained, and that equipment on hire or loan is similarly safe. They are responsible for ensuring that contractors employed by them can provide written proof that any of their electrical equipment is safe and has been tested in accordance with the requirements of good practice and the Regulations.

MAIN DUTIES

The Head of Department/ elective representative have a legal responsibility to ensure that all electrical equipment in their charge is safe to do so they must;

- Have a comprehensive understanding of the Aston University PAT Code of Practice guidelines.

- Identify all their electrical equipment connected by a plug & socket.
- Ensure that full and industry approved PAT tests are carried out at appropriate time periods set out by the university.
- Maintain timely records of the equipment, the tests and of any necessary maintenance carried out keeping in mind the due date of your next required tests.
- Interpret recorded test results and take appropriate action.

NEW EQUIPMENT

The HSE (Health and Safety Executive) recognises that new equipment bought from a reputable manufacturer and made to current electrical safety standards should be safe to use, unless damaged during storage or transit, etc. A simple visual check is required by the initial user. Every department will have items tested at least once every 12 months so new items will be picked up at this point and added to the comprehensive list held by each department.

This does not cover second hand/ used equipment, which will therefore need to be tested before use. In such an occurrence please contact the Estates Helpdesk for assistance.

EQUIPMENT BELONGING TO STAFF

Equipment belonging to staff, which is brought into the University to be used, must be visually inspected by the owner for any signs of damage (please see the Common Faults section) before its use on the campus sites. Staff must make their Heads of Department or appointed representative aware of any personal electrical items that are being used on site (particularly domestic appliances), as they may need to be PAT tested. Any concerns about these items electrical safety should be raised at this point.

How do the tests work?

The testing may be electrical, or visual, or a mixture of both, depending on the type of equipment. As a standard rule there are two types of equipment that can be found in most workplaces; Class I equipment- which is protected by earthing items such as electric kettles, heaters and power tools, and Class II equipment- which is double insulated equipment that may require less rigorous electrical testing.

All people involved in the PAT process need to be competent and/or trained to do so;

THE TEST OPERATIVE / THE INSPECTOR

In most cases this will be the person doing the testing; they must be competent and qualified to inspect and test an electrical appliance in order to determine if it is safe to use based on the inspection and test results.

How often are they due?

The University has set guidelines which determine the time period between each test dependent on the specific item. The time periods may be reduced if an 'Assessment of Risk' identifies shorter intervals are required. Below is the Aston University PAT Schedule of Test;

EQUIPMENT	FORMAL TESTING AND INSPECTION
Battery-operated: (less than 20 volts)	No
Extra low voltage: (less than 50 volts AC) e.g. telephone equipment, low voltage desk lights.	No (Visual inspection by user only)
Information technology: e.g. desktop computers, VDU screens.	Yes, 3 years
Photocopiers, fax machines, fridges, dishwashers, washing machines.	Yes, 3 years
Double insulated equipment: NOT hand-held, moved occasionally, e.g. fans, table lamps, slide projectors, static extension leads, air humidifiers.	Yes, 1 year
Double insulated equipment: HAND HELD e.g. some floor cleaners, portable extension leads.	Yes, 6 months
Earthed equipment (Class 1): e.g. electric kettles, microwaves, convector heaters, toasters, coffee machines, sandwich toasters.	Yes, 1 year

What happens after the test?

Once the test has been completed you will be given a comprehensive list of all items that have been tested in your department. It is important for you to keep these lists as proof that your department is complying with the universities PAT Testing Code of Practice. Each item will either receive a pass or a fail mark.

What if an item doesn't pass the test?

If an appliance within your department is found to fail the test you will be advised by the test engineer who will either cut the lead/plug top off the appliance (and leave for your disposal) or take your item/s to the Estates department to be disposed or repaired. The person responsible for repairing any faulty equipment must be trained and competent to do so. Equipment must be re-tested following the repair and record kept of the repair.

How can we maintain good electrical safety in between tests?

Users of the equipment should check for obvious faults before switching on and using any appliance. They must also know what to do if they find a fault...

COMMON FAULTS TO LOOK OUT FOR

- Damage to cables such as cuts, pinching or exposed wires.



*This electrical item was found in one of Aston University's departments, it subsequently failed its PAT test.

- Damage to plug tops such as scorch marks, are the prongs and cases loose or distorted? Is there any evidence of overheating on the wall socket?



- Appliances- Look and Listen; is it working as normal? Overheating? Emitting a strange noise, smell or vibration?
- Termination of the cable into the appliance; is this showing signs of damage? Scorch marks? Fraying?

IF YOU NOTICE ANY OF THE ABOVE OR ARE UNSURE AT ALL PLEASE FOLLOW THESE STEPS

1. Unplug, if you feel it's safe to do so!
2. Make sure others around you are aware that you have unplugged this appliance for a reason.
3. Contact the Estates Helpdesk as soon as practical on extension 4000 or via the estates helpdesk email estates_helpdesk@aston.ac.uk

