

Portable Appliance Testing (PAT) guidance



Why is regular PAT testing important?

Regular PAT testing is essential for controlling risks, preventing injury or harm, and complying with legislation.

What is my responsibility for PAT testing?

You are responsible for complying with your School or Service local rules and for using equipment as instructed.

When using University equipment, ensure that it has a current PAT label and is safe to use. Carry out a brief pre-use check to make sure there are no loose wires, no obvious damage to equipment, cables, plugs or sockets and no evidence of overheating.

If you are concerned about the safety of the equipment, report this to your line manager or supervisor.

Head of School/Service responsibilities

If you are a Head of School or Service, you are responsible for statutory compliance and should maintain a suitable maintenance schedule for portable electrical equipment. You are responsible for removing faulty equipment from use, carrying out remedial work and retesting equipment that has been fixed before returning it to service.

You should have trained, competent staff or a University Contractor to carry out PAT maintenance and ensure that compliant equipment is labelled with details of the inspection, the test date, and the name of who tested the equipment and keeping the records of these.

Line Manager/Supervisor responsibilities

If you are a line manager or supervisor, you are responsible for maintaining equipment in a safe working order. You should make equipment available for inspection and testing when it's required and have equipment inspected or tested within an appropriate maintenance schedule.

If equipment fails inspection or testing, you must remove it immediately from use, arrange to have remedial work carried out and have the equipment re-examined before it's used again.

Where appropriate, you must provide your staff with relevant information, instruction, and training about any risks associated with the use of the equipment and the control measures necessary to reduce those risks.

Portable Appliance Testing

What is portable equipment

Portable equipment is defined by the Health and Safety Executive (HSE) as equipment that's intended to be connected to a generator or fixed installation by a cable and either plug and socket or a spur box.

This includes:

- hand-operated equipment that will be moved while connected to the supply
- appliances that have been fixed for security purposes
- extension leads, plugs, sockets and cord sets that supply portable equipment

The regular planned formal inspection and testing of portable electrical equipment may include:

- formal visual inspection for signs of damage and deterioration
- electrical tests using a calibrated PAT device. As a minimum, these electrical tests take the form of an earth continuity and leakage test (where an earth is present) and an insulation test

The type of inspection and testing will be determined by the risk assessment, the type of equipment, where it will be used, and what it will be used for.

PAT maintenance should be carried out by a competent person and recorded locally, and the equipment labelled as "Passed" with the test date clearly visible.

Further guidance on the requirements for maintaining types of portable electrical equipment: [HSE: Maintaining portable electrical equipment](#).

How often should equipment be PAT tested?

The frequency of PAT maintenance depends upon the type of equipment and the environment it is used in.

This should take account of the:

- type of equipment

- power rating, and class of electrical equipment
- age of equipment
- manufacturers recommendations
- individuals using the equipment
- frequency of use
- working environment

A combined inspection and test should be carried out if there is reason to suspect the equipment is defective and this can't be confirmed by visual inspection, and after repair or modification work.

Read the HSE's Maintaining [portable electrical equipment guide](#) for more information.

Types of equipment that require PAT testing

Class I equipment (earthed)

Class I equipment is electrical appliances that have an earth connection. If there is a fault within the equipment, it's possible that the outside of it can cause an electric shock if the earth connection is lost.

This type of equipment is considered a higher risk and must be formally tested, the test schedule will be determined by the risk assessment.

All extension leads must be earthed and tested as Class I equipment.

Class II equipment (double insulated)

This equipment does not require an earth connection to maintain safety and is regarded as low risk if the plug and lead are rarely disturbed and the equipment is used in a low-risk environment like an office. It will only require a formal visual test every 2 to 4 years depending on the frequency of use.

Equipment that might be used by students or the public may require an annual combined inspection and test, dependent on the risk of damage.

It will need more frequent visual inspection and testing, when used in demanding conditions such as outside or in a laboratory or workshop environment.

The frequency and form of testing should be determined by a competent person with the knowledge, training and experience of the equipment, conditions of use and portable appliance test procedures.

New equipment

New equipment must be supplied in a safe condition with a declaration of conformity to the [Electrical Equipment \(Safety\) Regulations 2016](#).

It does not need a formal test, but a visual inspection is recommended, and items must be included on the School or Service inventory and a suitable frequency for future inspection and testing should be determined.

Items that will be used in higher risk environments may benefit from pre-use testing to confirm they are safe to use in the intended work conditions.

Second-hand equipment

Second-hand equipment must be safe to use. Schools or Services should ensure any second-hand equipment has undergone a combined inspection and test before it is used.

Hire equipment

Suppliers of hire leased portable electrical equipment including printers, photocopiers, and vending machines, are responsible for formally inspecting and testing the equipment before each hire.

Schools or Services should check the terms of the lease agreement regard the responsibilities for ongoing inspection and testing of the equipment during the rental period.

Computers and laptops

Laptop and desktop computers are unlikely to need to be tested in their expected lifetime of 4 to 5 years. It's advised that you carry out a visual check every 2 to 3 years, depending on the positioning of the cables and frequency of being unplugged.

If you are ever concerned about the safety of your equipment, talk to your line manager or supervisor who will arrange for it to be PAT tested or replaced.

Lending equipment from other organisations

If you loan electrical equipment from other organisations, you must ensure it is formally tested and should request documented confirmation of the testing. Where this is not available, Schools or Services must arrange for the loaned equipment to be tested prior to it being used.

If you lend University equipment to another organisation, your School or Service must ensure it has been formally tested beforehand.

Personal electrical equipment

Schools or Services should establish their own local arrangements for staff and students bringing personal electrical items into work and ensure these arrangements are communicated via the local rules.

Personal electrical items used within the workplace must be within a current PAT period, as determined by the School or Service.

Training and competence

If you have been appointed to carry out PAT maintenance, whilst you don't need qualifications, you will have electrical knowledge, have had suitable training, instruction and information and the experience to do the testing and interpret the results and this should be agreed with your manager or supervisor.

There are two levels of competency:

- Level 1: Individuals are not skilled in routine electrical work but use simple pass/fail test equipment where no interpretation of results is required.
- Level 2: Individuals have appropriate electrical skills, experience, and training to operate test equipment that require interpretation of the results.

Where your manager or supervisor identifies a requirement for formal training and qualification, further information can be obtained through appropriate professional bodies such as the [National Inspection Council for Electrical Installation Contracting \(NICEIC\)](#) or Safety and Health Services.

External contractors

To order an external contractor and see what suppliers are available, visit the [Portable Appliance Testing \(PAT\)](#) SharePoint page.

Test equipment

All equipment used to perform PAT testing must be fully calibrated at the time of use. This calibration should be carried out by [UKAS certified bodies](#).

Instruments must be calibrated at least annually, or in accordance with the manufacturer's instructions.

Schools or Services must ensure that up to date certificates of calibration are held for all test equipment.