PAT Testing FAQs

What is a Portable Appliance Test?

It’s a formal check on electrical safety for mains-powered devices. 90% of the test is a visual inspection to make sure that there is no visible reason that the item is unsafe to repair or defective after a repair. The final 10% is to test insulation and earth connection with the PAT machine, to keep a record, and to issue a green sticker if the item passes all the checks.

Do I need to PAT test items at my Repair Cafe?

This will depend on your Repair Cafe insurance. Guidance from Repair & Share specifies PAT testing. The insurance used by several Cafés in 2022 required every repaired item to be tested, but the policy from Export & General for 2023 does not mention it.

There is a requirement under the Electricity at Work Regulations and other government regulations to ensure electrical equipment is maintained to meet requirements for safe operation.

Which items need to be PAT tested?

Every item with a mains plug (or which is intended to have a mains plug) is a portable electrical appliance, according to the regulations. Where there is a separate power brick or battery charger (such as a laptop computer), the only part carrying mains voltages, only that part needs testing – to make sure that it’s doing its job of isolating the mains from the rest of the item. For a cordless kettle or iron, where the adaptor connects mains electricity directly to the item, the whole thing needs testing, not just the base part with the mains plug.

Double insulated mains powered equipment labelled class II, do not need to be tested using a PAT tester but they will need a visual inspection of the case, cable and mains plug including cable connections. Our PAT tester in Toolkit 1 can’t test extension leads or removable power cables separately from the item they power.

Who can conduct a PAT test?

The test must be done by a competent person, which means someone who has completed a PAT training course or someone who can demonstrate competence in electrical safety.
Under the Electricity at Work Regulations which are the technical basis for the drive to PAT test equipment, to be a competent person one does not have to complete a training course but you must demonstrate technical competence. The insurers may mandate that a training course be completed in which case some of my comments above are not relevant. Competence however can be demonstrated in other ways.

Is there a PAT testing kit in the Cambridgeshire Repair Cafe Network toolkit?

Yes. There is a PAT machine, some test labels, a PAT manual and a test recording sheet in the black Admin toolbox. If there is a problem with any of these items or if they’re running low, please email repairnetwork@cambridgecarbonfootprint.org

What training do you recommend to be a competent PAT tester?

The gold standard for such a course is City & Guilds 2377, but this takes two days. For Repair Café purposes, some simpler online courses are available. Here are some examples of courses:

- A free course offered by ParkerBell [https://www.onlinepattestingcourse.co.uk/](https://www.onlinepattestingcourse.co.uk/), with a direct link to the course material here: [https://www.onlinepattestingcourse.co.uk/pat-testing-course/](https://www.onlinepattestingcourse.co.uk/pat-testing-course/)
- Some myth busting from the Health and Safety Executive: [https://www.hse.gov.uk/electricity/faq-portable-appliance-testing.htm](https://www.hse.gov.uk/electricity/faq-portable-appliance-testing.htm)
- A blog on useful PAT testing tips, including common mistakes to avoid: [https://www.pat-testing-training.net/articles/](https://www.pat-testing-training.net/articles/)

Can we be sure that an item that passes a PAT test is safe?

No. Like a car MoT, the PAT sticker shows that the limited formal tests, which in particular don’t include looking inside the appliance or item, did not find a problem at the time the test was done. An electrical fault could appear after the test, and it doesn’t check for faults such as an electric saw not switching off (could cause a non-electrical injury).

How do you PAT test at your Repair Cafes?

There are many ways to PAT test at Repair Cafes. Here is an example PAT test policy that we have used in the past.

**What you need:**
At least one, ideally two, repairers who are PAT competent. Two is better than one, because it can be good to share the.

- A table or desk with a mains power socket, normally by the exit.
- PAT testing machine, earth wire, labels and manual which can be found in the black Admin Toolbox in the Cambridgeshire Repair Cafe Network toolkit.
- A checklist to remind every repairer about the visual inspection (one per repair desk).
- Posters to remind visitors to get their items PAT tested (also in the admin toolbox).

**Step 1 - Assess whether items need to be PAT tested**

**Who:** Reception desk/PAT test volunteer

**Where:** Reception desk

**Action:**

When an item is brought in to the Repair Cafe, the Reception/triage team let the visitor know whether their item needs to be PAT tested and explain the process set out below. All items with plugs should be PAT tested, even if they are brought in for a mechanical repair e.g. if a mechanical fix on a lampshade is needed.

**Step 2 - Pre-repair visual assessment**

**Who:** Repairer assigned to repair the item

**Where:** At repair desk where the repair will take place

**Action:**

Each repairer who is repairing an item that needs to be PAT tested will check that:

- The plug is undamaged and is correctly wired;
- The fuse is appropriate;
- The mains flex looks safe;
- The item to be repaired has its casing or body intact;
- If the body is metal and there's an earth wire, make sure any metal casing is earthed.

**Consequence:**

- If the item fails the visual inspection, any faults found must be resolved before tackling the repair or the repairer may decide that it is unsafe to work on the item.

- If the item passes the visual inspection but the repairer has any other concerns, the item can be sent for an insulation & earth continuity test at the PAT test table.

- If the item passes the visual inspection, it is of course still faulty. Our shared toolkit includes an isolating Variac and plug-in RCDs; one of these should be used when the item is powered for diagnosis, repair or checking after repair.

**Step 3 - Post repair PAT test**

**Who:** PAT test volunteer

**Where:** PAT test desk at exit of the repair cafe

**Action:**

- The visitor takes the item to the PAT test desk following the Repair

- The PAT test volunteer does the insulation and earth continuity tests, issues the sticker and writes a line in the record sheet. Organisers can choose to use the record sheet that is left in the toolkit or keep their own records.

**Consequence:**

- If the item passes it’s ready to be taken home.

- An item which fails should be given a red warning sticker, or of course re-repaired so as to pass and given a green sticker.

- Because we cannot force a Repair Cafe visitor to stay to the end of the repair and test process, we should consider the item as incompletely repaired if un-recorded in the PAT log sheet.

**What does a failed test mean?**

For almost every item, if it’s repaired correctly it should pass its PAT. A few mains-powered very old devices were not designed to meet today’s electrical safety standards, and cannot
pass the tests. These ought to be given a red sticker; advise owners to take additional precautions if they have to be used. For example, to use a plug-in RCD and never to leave the device unattended while it is connected to the mains.