



PAT Safe Ltd

Method Statement

of

The Provision Of Portable Appliance Testing

Contents

1 SCOPE	2
2 ABOUT PAT SAFE	2
3 THE LAW	2
4 DEFINITIONS	2
5 INSPECTION AND TESTING	3
6 LABELLING	3
7 REMEDIAL WORKS	4
8 RESIDUAL CURRENT DEVICES (RCD's)	4
9 SOCKET TESTING	4
10 MICROWAVE POWER AND LEAKAGE	4
11 PERIODICITY	4
12 REPORTS	4
13 RISK ASSESSMENT	5
14 CUSTOMER FEEDBACK	5

1. SCOPE

This document has been prepared with a view to detailing and informing the customer in respect of the Portable Appliance Tests undertaken by PAT Safe. PAT Safe performs these tests under the guidance of The Code of Practice for In-service Inspection and Testing of Electrical Equipment, which is a document produced by and available from the Institution of Electrical Engineers.

The equipment within the scope of this document includes electrical appliances for household and similar use, certain IT equipment supplied by plug and socket, luminaries, and similar equipment. Generally speaking this document applies to all equipment fitted with the standard single-phase 3-pin plug. The tests performed only indicate the status of the safety of the Unit Under Test and, although a functional test is performed, should not be misinterpreted as a verification of the unit's compliance with operational specifications.

It must also be understood that some appliances (Class1) rely upon the fixed wiring of the socket to ensure continuity of the Earth connection. These tests ensure the appliance under test has the correct Earth connection resistance but cannot ensure the continuity within the Fixed wiring of the supply and that Further Fixed wiring periodic tests are required.

2. ABOUT PAT Safe

PAT Safe is committed to providing a quality cost effective PAT Testing Service to our Customers believing that our success is based on the success of our customers. We believe in an open and honest relationship and will endeavour to meet our customer requirements where practically possible.

3. THE LAW

The Code of Practice which was prepared by the Institution of Electrical Engineers with a view to determining the inspections and tests necessary to ensure that electrical equipment is maintained properly so as to prevent danger. Although some references may be made to legislation within this document, the specific legislation should be consulted.

The legislation of specific relevance to electrical maintenance is:

The Health and Safety at Work etc Act 1974
The Management of Health and Safety at Work Regulations 1999
The Electricity at Work Regulations 1989
The Workplace(Health, Safety and Welfare) Regulations 1992
The Provision and Use of Work Equipment Regulations 1998

4. DEFINITIONS

- (i) **BASIC INSULATION**
Insulation applied to live parts to provide basic protection against electric shock and which does not necessarily include insulation used exclusively for functional purposes.
- (ii) **CLASS 1 EQUIPMENT**
Equipment in which protection against electric shock does not rely on basic insulation only, but which includes means for the connection of exposed-conductive parts to a protective conductor in the fixed wiring of the installation.
- (iii) **CLASS 2 EQUIPMENT**
Equipment in which protection against electric shock does not rely on basic insulation only, but in which additional safety precautions such as supplementary insulation are provided, there being no provision for the connection of exposed metalwork of the equipment to a protective conductor and no reliance upon precautions to be taken in the fixed wiring of the installation
- (iv) **CLASS 3 EQUIPMENT**
Equipment in which protection against electric shock relies on the supply from a separated extra low voltage source (SELV), such as an isolating transformer to BS EN 61558.
- (v) **EARTH BOND TESTING**
Earth bond Testing is required on Class 1 Appliances to ensure there is a suitably low resistance between a metal plane on the appliance and the earth pin of the plug. Earth bond tests are designed to stress the Earth bond connection to ensure a satisfactory earth connection is present. Our test equipment has capability for Earth Bond Measurement at 100mA, 4A, 10A and 25A. It is recommended that Earth bond tests are performed at least 1.5 times the fuse rating in the plug top. It is however recommended that IT equipment is tested using the 100mA soft test current.

- (vi) **INSULATION TESTING**
Insulation Testing is used to measure the Insulation Resistance of the appliance to ensure that no breakdown of the insulation has occurred. On 230V equipment 500Vdc is applied between live conductors and the body of the appliance.
- (vii) **LEAKAGE TESTING**
Leakage Testing is used to measure the full leakage current of an appliance in situ. The supply voltage is applied to the appliance and the difference in currents flowing in the Live and Neutral is measured.
- (viii) **POLARITY TESTING**
Polarity Testing is performed on Class 1 Appliance cord sets and Extension leads. The Polarity tests ensure there are no breaks or cross wiring in these appliances.
- (ix) **VISUAL INSPECTION**
This test involves an in depth check of the visual integrity of the plug, flex, fuse and case of the Appliance under test. Power is required to be OFF for a complete visual inspection to take place. Fuse Replacements are performed FREE OF CHARGE and incorporate downsizing the fuse to the appropriate size for the cross sectional area of the plug. It should be noted that this change will not be performed if the power requirement of the appliance is greater than that allowed by the fuse change as may be the case in some older appliances and appliances with a high start up but low operating current. Plug re terminations are performed FREE OF CHARGE, however a small charge is made for Plug Replacement as detailed in our Current Pricing Policy.

5. INSPECTION AND TESTING

PAT Safe shall endeavour to minimise the disruption to your working environment, however power to the appliance under test requires to be switched OFF for the testing to be completed. Should this disruption be unacceptable PAT Safe offer an out of hour's service at no extra charge.

- 1 Equipment will be shutdown in a controlled fashion.
- 2 Next Appliance label id shall be scanned into Test Equipment.
- 3 Appliance type shall be defined and tested appropriately.
- 4 Upon completion of testing, the appliance description, manufacturer, model and serial number (where appropriate) shall be input into the comments section of test equipment.
- 5 Bar-coded test label shall be attached to appliance. A green PASS label or RED FAIL label shall be attached to the retest due section of the bar-coded test label.
- 6 FAILED appliances shall have the fuse removed and site contact notified of such. A short description of the failure mode will be input to the comments section of the FAIL label.

6. LABELLING

All tested appliances will be appended with a unique bar-coded label, which will remain the PAT Safe appliance id for the usable life of the appliance. Testing in Consecutive years incorporates scanning the appliance id label to ensure that trends in deterioration of the appliance test results are monitored. Appliances which PASS the tests shall be appended with a green PASS test date label. Appliances FAILING the combined tests will be appended with a RED FAIL label with a short description of Failure Mode inserted in the comments section.

The labels used by PAT Safe are made from a high quality polyester gloss material, this material is tear, fade, and water-resistant. The material is also suitable for clean room environments where particulate shedding from standard paper labels may be of concern.

7. REMEDIAL WORKS

Various on site remedial works can be performed by JPS including Fixed wire Flex Replacement with retesting performed Free of Charge at time of repair. High-risk Failure items are stocked and can be replaced if required/authorised. These items to include Standard Plugs, Thermoplastic Plugs, IEC Leads, Extension Leads, Anti Surge Extension Leads, RCD plugs.

8. RESIDUAL CURRENT DEVICES (RCD's)

RCD's require additional testing to ensure the electrical operation of the unit in a fault condition. PAT Safe can provide this service if required / authorised. Pricing is listed in our current Pricing Policy. Testing incorporates supplying a calibrated test current to the RCD to ensure the device trips within its specified time and current parameters.

9. SOCKET TESTING

Portable Appliance Testing ensures the safety of the appliance, Class 1 appliances also require the integrity of the Earth within the fixed wiring to ensure their safety. PAT Safe can perform testing on the socket outlet to ensure that an adequate earth and phase polarity is correct. Whilst this does not constitute a fixed wiring inspection or any part thereof it does provide an interim inspection thereby ensuring that the PAT Regime is not compromised by a missing earth within the fixed wiring. This service can be provided if required / authorised, pricing is listed in our current Pricing Policy.

10. MICROWAVE POWER AND LEAKAGE

Additional Requirements for Microwave Ovens are covered by the BS EN 60335-2-25 Safety Standard. If instructed PAT Safe can perform additional tests to ensure the appliance under test is working optimally.

- (i) **MICROWAVE POWER**
This involves heating a known volume of water for a known period and calculating the power generated by the oven as a function of the period and difference in temperature generated in the water.
- (ii) **MICROWAVE LEAKAGE**
This involves the measurement of the microwave leakage to ensure that the leakage does not exceed the recommended 50 W/m^2
- (iii) **DOOR INTERLOCK**
This involves checking the operation of the door interlock system to ensure that microwave generation ceases when the door is opened.

11. PERIODICITY

PAT Safe will as standard perform these tests on a yearly basis or on a period as required by the customer. In consecutive years a notification will be sent to the nominated person 1 month before the retests are due to allow adequate provision for the retesting to be scheduled.

12. REPORTS

Upon Completion of the testing a report shall be generated detailing the tests and results undertaken. This Report shall be forwarded to the nominated customer contact. PAT Safe can provide the reports in three formats.

- (i) **Thermal Bound Paper Report:** This report comprises of the test results of each appliance presented within a thermal binding. This report is at present issued as standard. Approximately 10 appliances are listed per A4 page with their corresponding test results.
- (ii) **Reports can be presented in pdf format and emailed to nominated customer contact.**
- (iii) **A mirror copy of the PAT Safe database and appropriate reader software can be supplied on CDR.**

13. RISK ASSESSMENT

PAT Safe is committed to working in a safe environment for its own employees, customer employees and visitors to customer premises at the time of testing. As such specific hazards in the testing environment shall be discussed with the duty holder prior to commencement.

14. CUSTOMER FEEDBACK

PAT Safe is committed to providing a quality service. We view all customer feedback as a vehicle for continuous improvement. As such new customers will receive a customer feedback form with the PAT report. We appreciate ALL and ANY comments on the service you received to ensure we continue to provide the service you require.

