

# PAT25 Testing Notes

Please read carefully before use.

1. The testing of portable appliances includes a visual inspection as indicated on the sample Certificate of Inspection. The inspection and tests should only be performed by a competent person.

**The centre push button checks continuity through the appliance (i.e. it checks the fuse mains switch and main circuitry). The led should either flash or maintain a steady blue.**

2. When testing appliances, the term 'portable' applies to anything fitted with a mains plug including photocopiers, offset litho machines, etc.
3. If the appliance has a mains on/off switch, this should be switched on prior to testing.
4. When performing an insulation test on Class 2 (double insulated) appliances, the test lead crocodile clip should be pressed against various parts of the insulated case, e.g. near where the mains supply enters etc. Any of the test sockets may be used for this test. Care should be taken to hold the crocodile clip via the insulating shroud. If the metal of the clip is touched during the test, a mild tingling may be felt - this is unpleasant but not dangerous.

Some double insulated appliances may have an insulating case but metal screws etc. may be visible; these do not necessarily mean that it is Class 1! Provided the screws are driven into enclosed insulating material, Class 2 integrity is maintained.

5. To test an extension lead, plug the lead into the 13A socket on the PAT25 and connect the test lead fitted with a 13A plug into the extension lead socket. 25A or 8A tests may then be applied as required. When testing extension leads and items having very long leads (e.g. overhead projectors etc.), the Earth Bond test result may show a fail. The earth resistance of a lead is dependent on both its length and the diameter of the cable. Due allowance should be made for these factors when interpreting the results. As a guide, 6A cable has a resistance of 0.028 ohms per metre and 13A cable 0.0175 ohms per metre. If an appliance fails using the 25A socket, retest using the 8A socket.
6. The insulation test applies 500-600V d.c. between the live and neutral conductors and earth. If the appliance is fitted with mains input filter capacitors, this can stress these components. The fitting of filter capacitors may also give misleading results - under these circumstances, the manufacturer's advice should be sought.
7. When testing electric kettles, the test lead should be clipped to the kettle element. In hard water areas, this will require you to scrape away scale until the bare metal can be seen.
8. When testing computers, ensure that the earth bond test point is a genuine mains earth and not a signal earth point. If there is any doubt, simply complete a visual inspection and skip the PAT25 tests. A note should be made on the Certificate of Inspection.
9. When testing IEC or kettle leads, the lead should be plugged between the IEC and 13A test connectors on the PAT25. The selector switch should be set to 25A. The test lead is not required.
10. When assessing Class 1 and Class 2 appliances and plug fuse values, the following information may be helpful:

Items fitted with 2 core cable are Class 2 (double insulated). Some Class 2 appliances may be fitted with a 3 core cable but Class 1 appliances are never fitted with 2 core.

Plastic electric kettles are Class 1 (see 7 above).

Generally speaking, the only appliances which will require 13A fuses are kettles, water heaters, irons and electric heaters. Colour televisions require a 5A fuse. Most other appliances require a 3A fuse - if in doubt fit a 3A fuse. If this "blows", fit a 5A, then a 13A.

11. When unplugging from the mains, a faint whining sound may be heard. This is the capacitors discharging through the mains test circuit and does not constitute a fault.
12. **It is recommended that this unit is calibrated yearly.**



# PAT25 Portable Appliance Tester

## Certificate of Inspection

Inspector.....

Appliance ..... Date .....

Location ..... Serial Number .....

	TEST	PASS REQUIREMENT	PASS	FAIL	NOTES
1.	Inspection of Cable	No insulation damage BS colours	.....	.....	
2.	Inspection of Plug	No damage Correct fuse	.....	.....	
3.	Inspection of male connector	BS type or equivalent	.....	.....	
4.	Open socket without tool	Unopenable	.....	.....	
5.	Pull cable from female connector	No movement	.....	.....	
6.	Cable grommet or clamp	Cable insulation protected Cable pull - no movement Cable twist - no movement	.....	.....	
7.	Inspection of mains switch	Correct operation No damage	.....	.....	
8a.	Case Earth connection (Class 1)	No damage	.....	.....	<b>Earthed case</b>  
8b.	Earth Bond (Appliance)	<0.1Ω/0.25Ω	.....	.....	
8c.	Earth Bond (Extension lead)	<0.25Ω/0.35Ω	.....	.....	
9a.	Insulation Test (Class 1)>2MΩ	.....	.....	.....	<b>Double Insulated</b>  
9b.	Insulation Test (Class 2)>7MΩ	.....	.....	.....	
10.	Remove accessible fuse	No damage No access to live parts >50V	.....	.....	

<b>ASSESSMENT</b> .....
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Recommended date for next test ...../...../.....

Signed .....