




Test Report



Report No	TR/11/308/B
Client	Electrical Safety Council 1.10, Canterbury Court 1-3 Brixton Road London SW9 6DE
Authority & date	2/36679 11th August 2011
Items tested	Various Kitchen Appliances refer to pages 3 - 6 for details
Specification	Bespoke Test Programme – Refer to pages 7 - 9 for details
Results	A range of household kitchen appliances have been tested and examined to the relevant requirements of the above specification Findings are detailed throughout this report.
Prepared by	 Anees Vaheed and  Krishna Patel
Authorised by	 Greg Childs
Issue Date	18.10.2011
Conditions of issue	This Test Report is issued subject to the conditions stated in current issue of CP0322 'Conditions of Contract for Testing'. The results contained herein apply only to the particular sample/s tested and to the specific tests carried out, as detailed in this Test Report. The issuing of this Test Report does not indicate any measure of Approval, Certification, Supervision, Control or Surveillance by BSI of any product. No extract, abridgement or abstraction from a Test Report may be published or used to advertise a product without the written consent of the Managing Director, Testing Services, who reserves the absolute right to agree or reject all or any of the details of any items or publicity for which consent may be sought.

Name of Client: *Electrical Safety Council*
Product:: *Various Kitchen Appliances*
Standard: *Bespoke Test Programme*
Report Ref. *TR/11/308/B*





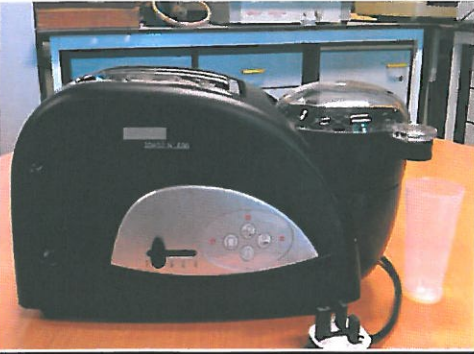

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Introduction

The Electrical Safety Council (ESC) has established safety screening project for household electrical kitchen appliances. The ESC has selected a range of eleven household kitchen appliances for BSI Appliances to examine and evaluate to the testing scope set by the ESC. Testing has been conducted under the general safety provision consisting of inspections and measurement with limited testing, full details of the test plan can be found on page 7.

Note: This report applies only to the particular sample units tested and to the specific tests carried out as detailed in this report.

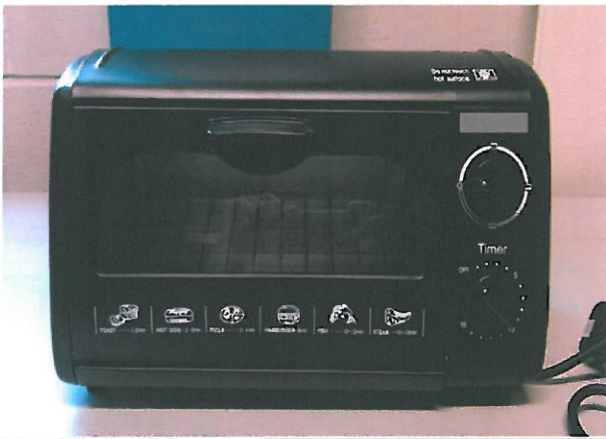
Sample Selection:

Toaster – 1 (Sample No. 7916)	
	
Toaster – 2 (Sample No. 7918)	
	
Toaster – 3 (Sample No. 7924)	
	

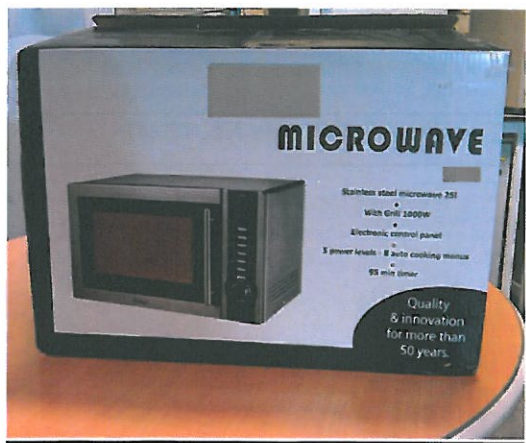
Halogen Oven (Sample No. 7917)



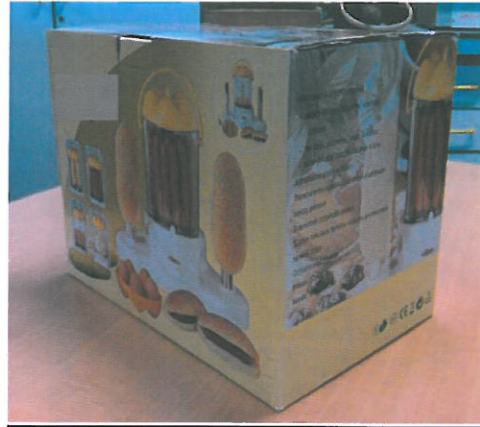
Mini Oven (Sample No. 7925)



Microwave (Sample No. 7920)



HotDog/Egg/Popcorn Maker (Sample No. 7919)



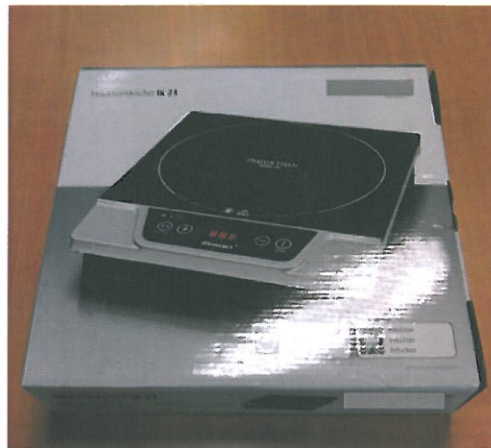
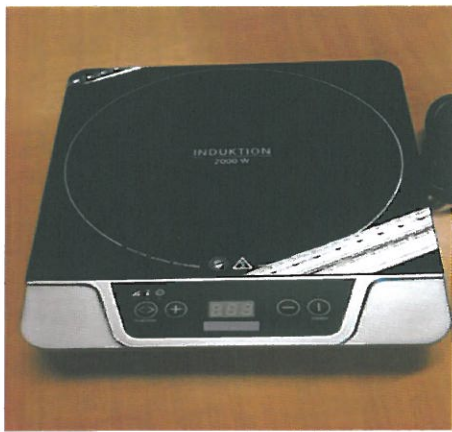
Rice Cooker (Sample No. 7926)



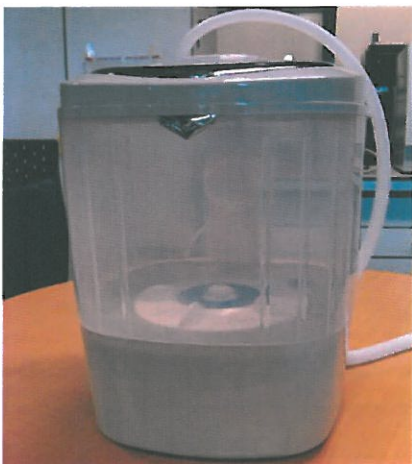
DeepFat Fryer (Sample No. 7922)



Induction Hob (Sample No. 7923)



Portable Washing Machine (Sample No. 7921)



Test Programme

The following scope has been set by the electrical safety council for safety screening of household electrical kitchen appliances:

- 1. Plug and fuse**
Check for fitting of approved plug and fuse link including counterfeit indications. Visual inspection and measurement of essential plug pin and fuse link dimensions
- 2. Classification**
Confirm the classification, as defined in the standard.
- 3. Initial operation**
A functional test is required to establish whether the product operates, as intended by the manufacturer and as described in the user instructions.
- 4. Marking and instructions**
Confirm the presence of standard markings either on the product or the rating label, or both. User instructions must also be checked for the presence of standard warnings, in particular EN 60335-1, clause 7.12, referring to the use of products by persons (including children) with reduced physical, sensory or mental capabilities etc.
- 5. Protection against access to live parts**
Inspection for access to live parts particularly after removal of detachable parts.
- 6. Power input and current**
Measurement required confirming that product is within standard permissible power input and current deviations.
- 7. Heating**
Measurement required confirming that product is within standard permissible limits. In particular, the limits imposed by CENELEC amendment A12 are to be applied to portable cooking appliances.
- 8. Leakage current and electric strength**
Testing required determining adequate electrical insulation properties.
- 9. Abnormal operation**
This may consist of very limited testing perhaps ensuring only that the thermal cut-out operates in a particular product.
- 10. Mechanical strength**
Carry out drop testing and impact testing on parts liable to be weak.
- 11. Construction**
Inspection is required to determine whether the product can be properly assembled and connected. Clause 22.44 states, "*appliances shall not have an enclosure that is shaped or decorated like a toy*". A decision is required against this clause.
- 12. Internal wiring**
Basic inspection only.
- 13. Supply connection and external flexible cords**
Inspect for marking of cross sectional area and measure conductors in cases of doubt.
- 14. Provision for earthing**
Check essential earthing requirements.
- 15. Clearance, creepage distances and solid insulation**
Inspection with measurement only in cases of doubt.

The above scope has been verified using relevant clauses of the following standards:

Product	Standards
Toaster 1	BS EN 60335-1:2002 + A14:2010 & Corr 1-7
	BS EN 60335-2-9:2003 +A13:2010 & Corr 1
Toaster 2	B BS EN 60335-1:2002 + A14:2010 & Corr 1-7
	BS EN 60335-2-9:2003 +A13:2010 & Corr 1
Toaster 3	BS EN 60335-1:2002 + A14:2010 & Corr 1-7-7
	BS EN 60335-2-9:2003 +A13:2010 & Corr 1
Halogen Oven	BS EN 60335-1:2002 + A14:2010 & Corr 1-7
	BS EN 60335-2-9:2003 +A13:2010 & Corr 1
Mini Oven	BS EN 60335-1:2002 + A14:2010 & Corr 1-7
	BS EN 60335-2-9:2003 +A13:2010 & Corr 1
Microwave	BS EN 60335-1:2002 + A14:2010 & Corr 1-7
	BS EN 60335-2-25:2002 + A1:2005 & A2:2006
Rice Cooker	BS EN 60335-1:2002 + A14:2010 & Corr 1-7
	BS EN 60335-2-15:2002 +A2:2008 & Corr 1- 4
Induction Hob	BS EN 60335-1:2002 + A14:2010 & Corr 1-7
	BS EN 60335-2-9:2003 +A13:2010 & Corr 1
Deep fat Fryer	BS EN 60335-1:2002 + A14:2010 & Corr 1-7
	BS EN 60335-2-13:2010

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Egg/Hotdog/Popcorn maker	BS EN 60335-1:2002 + A14:2010 & Corr 1-7
	BS EN 60335-2-9:2003 +A13:2010 & Corr 1
	BS EN 60335-2-15:2002 +A2:2008 & Corr 1- 4
Portable Washing machine	BS EN 60335-1:2002 + A14:2010 & Corr 1-7
	BS EN 60335-2-7:2010
All Plugs & Fuses	BS 1363-1:1995

NOTE: Full testing to the above safety standards is outside the scope of this project.

Summary of findings:

Sample: Toaster 1



Test Summary

Safety Criteria	Results	Comments
Plugs and fuse	Pass	-
Classification	Pass	-
Initial operation	Pass	-
Marking and instructions	Fail	See NC 1 See OBS 1
Protection against access to live parts	Pass	-
Power input and current	Pass	-
Heating	Fail	See NC 2
Leakage current and electric strength	Pass	-
Abnormal operation	Pass	-
Mechanical strength	Pass	-
Construction	Pass	-
Internal wiring	Pass	-
Supply connection and external flexible cords	Pass	-
Provision for earthing	Pass	-
Clearance, creepage distance and solid insulation	Pass	-

Non Conformity/Observations:

NC 1 – The User Manual does not have the following warnings statements:

- “This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.”
- The appliance is not intended to be operated by means of an external timer or separate remote-control system.

Continued....

Non Conformity/Observations:

OBS 1 - The User Manual also does not have the following warning statement:

- "This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children unless they are older than 8 and supervised."

This has been raised as an observation as the product may have been tested to a prior version of the standard e.g. 'BS EN 60335-2-9:2003+A12:2007' which excludes the above warning and is still a current standard.

NC 2 – The sample failed to meet the temperature requirements of clause 11.Z104 (BS EN 60335-2-9:2003+A13:2010 & Corr 1); the temperatures of the outer metallic surface exceeded the limits allowed by Table Z101 (highest point measured 75°C). However, the sample may have been tested to a prior version of the standard e.g. 'BS EN 60335-2-9:2003+A12:2007' and complied with the requirements of clause 11.

Sample: Toaster 2



Test Summary

Safety Criteria	Results	Comments
Plugs and fuse	Pass	-
Classification	Pass	-
Initial operation	Pass	-
Marking and instructions	Fail	See OBS 2 See NC 3
Protection against access to live parts	Pass	-
Power input and current	Pass	-
Heating	Pass	-
Leakage current and electric strength	Pass	-
Abnormal operation	Pass	-
Mechanical strength	Pass	-
Construction	Pass	-
Internal wiring	Pass	-
Supply connection and external flexible cords	Pass	-
Provision for earthing	Pass	-
Clearance, creepage distance and solid insulation	Pass	-

Non Conformity/Observations:

OBS 2 – The sample was not marked with the correct 'CE' symbol required by Low Voltage Directive. The User Manual does not have the following warning statements:

- "This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children unless they are older than 8 and supervised."

This has been raised as an observation as the product may have been tested to a prior version of the standard e.g. 'BS EN 60335-2-9:2003+A12:2007' which excludes the above warning and is still a current standard.

NC 3 – The User Manual was also omitting the following statement:

- "The appliance is not intended to be operated by means of an external timer or separate remote-control system."

Sample: Toaster – 3



Test Summary

Safety Criteria	Results	Comments
Plugs and fuse	Pass	-
Classification	Pass	-
Initial operation	Pass	-
Marking and instructions	Fail	See OBS 3
Protection against access to live parts	Pass	-
Power input and current	Pass	-
Heating	Pass	-
Leakage current and electric strength	Pass	-
Abnormal operation	Pass	-
Mechanical strength	Pass	-
Construction	Pass	-
Internal wiring	Pass	-
Supply connection and external flexible cords	Pass	-
Provision for earthing	Pass	-
Clearance, creepage distance and solid insulation	Pass	-

Non Conformity/Observations:

OBS 3 – The User Manual does not have the following warning statement:

- “This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children unless they are older than 8 and supervised.”

This has been raised as an observation as the product may have been tested to a prior version of the standard e.g. ‘BS EN 60335-2-9:2003+A12:2007’ which excludes the above warning and is still a current standard.

Sample: Halogen Oven



Test Summary

Safety Criteria	Results	Comments
Plugs and fuse	Pass	-
Classification	Pass	-
Initial operation	Pass	-
Marking and instructions	Fail	See OBS 4
Protection against access to live parts	Pass	-
Power input and current	Pass	-
Heating	Fail	See NC 4
Leakage current and electric strength	Pass	-
Abnormal operation	Pass	-
Mechanical strength	Pass	-
Construction	Pass	-
Internal wiring	Pass	-
Supply connection and external flexible cords	Pass	-
Provision for earthing	Pass	-
Clearance, creepage distance and solid insulation	Pass	-

Non Conformity/Observations:

OBS 4 – The User Manual does not have the following warning statement:

- “This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children unless they are older than 8 and supervised.”

This has been raised as an observation as the product may have been tested to a prior version of the standard e.g. ‘BS EN 60335-2-9:2003+A12:2007’ which excludes the above warning and is still a current standard.

NC 4 – The sample failed to meet the requirements of clause 11.Z101 (BS EN 60335-2-9:2003+A13:2010 & Corr 1). The outer glass surface exceeded the temperature limits required by table Z101 (highest point measured was 143°C). The sample was also not marked with a hot surface symbol IEC 60417-5041 or with the substance of the following “CAUTION: Hot Surface”.

Sample: Mini Oven



Test Summary

Safety Criteria	Results	Comments
Plugs and fuse	Pass	See OBS 5
Classification	Pass	-
Initial operation	Pass	-
Marking and instructions	Fail	See OBS 6 See NC 5
Protection against access to live parts	Pass	-
Power input and current	Pass	-
Heating	Fail	See NC 6
Leakage current and electric strength	Pass	-
Abnormal operation	Pass	-
Mechanical strength	Pass	-
Construction	Pass	-
Internal wiring	Pass	-
Supply connection and external flexible cords	Pass	-
Provision for earthing	Pass	-
Clearance, creepage distance and solid insulation	Pass	-

Non Conformity/Observations:

OBS 5 – The sample is rated at <3A, however it is fitted with an oversized fuse (13A).

OBS 6 – The User Manual does not have the following warning statement:

- “This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children unless they are older than 8 and supervised.”

This has been raised as an observation as the product may have been tested to a prior version of the standard e.g. 'BS EN 60335-2-9:2003+A12:2007' which excludes the above warning and is still a current standard.

NC 5 – The User Manual was also omitting the following statement:

- “The appliance is not intended to be operated by means of an external timer or separate remote-control system.”

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Non Conformity/Observations:

NC 6 – The sample failed to meet the temperature requirements of clause 11.Z101 (BS EN 60335-2-9:2003+A13:2010 & Corr1). The sample was marked with 'HOT SURFACE' however the outer surface and glass door temperatures exceeded the limits allowed for this particular scenario as detailed in Table Z101. The maximum temperature measured for the outer surface was 146 °C and 157 °C for the glass door.

Sample: Microwave oven with grill



Test Summary

Safety Criteria	Results	Comments
Plugs and fuse	Pass	-
Classification	Pass	-
Initial operation	Pass	See OBS 7
Marking and instructions	Pass	-
Protection against access to live parts	Pass	-
Power input and current	Pass	-
Heating	Pass	-
Leakage current and electric strength	Pass	-
Abnormal operation	Pass	-
Mechanical strength	Pass	-
Construction	Pass	-
Internal wiring	Pass	-
Supply connection and external flexible cords	Pass	-
Provision for earthing	Pass	-
Clearance, creepage distance and solid insulation	Pass	-

Non Conformity/Observations:

OBS 7 – The User Instructions state sample is supplied with a re-wireable plug, however on evaluation the sample is supplied with a molded plug. Electrical section within the manual also provides contradicting technical data.

Sample: Egg boiler/Popcorn maker



Test Summary

Safety Criteria	Results	Comments
Plugs and fuse	Pass	See OBS 8
Classification	Pass	-
Initial operation	Pass	See OBS 9
Marking and instructions	Fail	See NC 7 See OBS 10
Protection against access to live parts	Pass	-
Power input and current	Pass	-
Heating	Pass	See OBS 11
Leakage current and electric strength	Pass	-
Abnormal operation	Pass	-
Mechanical strength	Pass	-
Construction	Pass	-
Internal wiring	Pass	-
Supply connection and external flexible cords	Pass	-
Provision for earthing	Pass	-
Clearance, creepage distance and solid insulation	Pass	-

Non Conformity/Observations:

OBS 8: The sample is rated at <3A, however it is fitted with an oversized fuse (13A)

OBS 9 – The user manual does not provide clear & accurate instructions on how to operate the popcorn function.

NC 7 – The sample is not marked with a name, trade mark or identification mark of the manufacturer or responsible vendor. The User Manual was omitting the following statement:

- “The appliance is not intended to be operated by means of an external timer or separate remote-control system.”

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Continued...

Non Conformity/Observations:

OBS 10 - The User Manual also does not have the following warning statement:

- "This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children unless they are older than 8 and supervised."

This has been raised as an observation as the product may have been tested to a prior version of the standard e.g. 'BS EN 60335-2-9:2003+A12:2007' which excludes the above warning and is still a current standard.

OBS 11 - During the evaluation it was observed that if the appliance is operated under 'hot-dog/egg-boiler' mode, there are no standard surface temperature limits for accidental touch, for example heated side rods. It was noted that the heated side rods could reach temperatures which might cause a potential burn hazard.

Sample: Rice Cooker



Test Summary

Safety Criteria	Results	Comments
Plugs and fuse	Pass	-
Classification	Pass	-
Initial operation	Pass	-
Marking and instructions	Pass	-
Protection against access to live parts	Pass	-
Power input and current	Pass	-
Heating	Pass	-
Leakage current and electric strength	Pass	-
Abnormal operation	Pass	-
Mechanical strength	Pass	-
Construction	Pass	-
Internal wiring	Pass	-
Supply connection and external flexible cords	Pass	-
Provision for earthing	Pass	-
Clearance, creepage distance and solid insulation	Pass	-

Non Conformity/Observations:

None

Sample: Deep Fat Fryer



Test Summary

Safety Criteria	Results	Comments
Plugs and fuse	Pass	-
Classification	Pass	-
Initial operation	Pass	-
Marking and instructions	Fail	See OBS 12
Protection against access to live parts	Pass	-
Power input and current	Pass	-
Heating	Pass	-
Leakage current and electric strength	Pass	-
Abnormal operation	Pass	-
Mechanical strength	Pass	-
Construction	Pass	-
Internal wiring	Pass	-
Supply connection and external flexible cords	Pass	-
Provision for earthing	Pass	-
Clearance, creepage distance and solid insulation	Pass	-

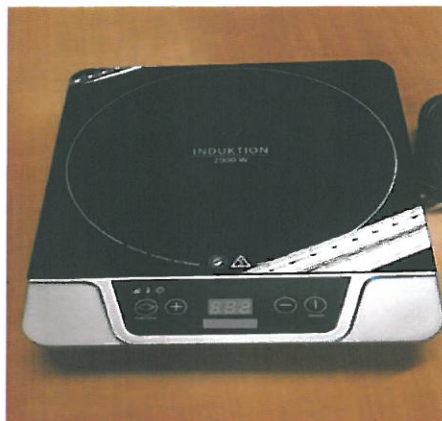
Non Conformity/Observations:

OBS 12 – The User Manual does not have the following warning statements:

- “The appliance is not intended to be operated by means of an external timer or separate remote-control system.”
- “This appliance is intended to be used in household and similar applications such as:
 - staff kitchen areas in shops, offices and other working environments;
 - farm houses;
 - by clients in hotels, motels and other residential type environments;
 - bed and breakfast type environments.

This has been raised as an observation as the product may have been tested to a prior version of the standard e.g. 'BS EN 60335-2-13:2003+A2:2008' which excludes the above warnings and is still a current standard.

Sample: Portable induction cooker



Test Summary

Safety Criteria	Results	Comments
Plugs and fuse	Pass	-
Classification	Pass	-
Initial operation	Pass	See OBS 13
Marking and instructions	Fail	See OBS 14
Protection against access to live parts	Pass	-
Power input and current	Pass	-
Heating	Pass	-
Leakage current and electric strength	Pass	-
Abnormal operation	Pass	-
Mechanical strength	Pass	-
Construction	Pass	-
Internal wiring	Pass	-
Supply connection and external flexible cords	Pass	-
Provision for earthing	Pass	-
Clearance, creepage distance and solid insulation	Pass	-

Non Conformity/Observations:

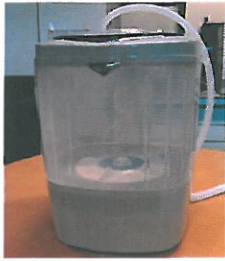
OBS 13 – The user manual instructs the user to operate the appliance using “AUS/AN” however the unit is not marked with such words.

OBS 14 – The User Manual does not have the following warning statement:

- “This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children unless they are older than 8 and supervised.”

This has been raised as an observation as the product may have been tested to a prior version of the standard e.g. ‘BS EN 60335-2-9:2003+A12:2007’ which excludes the above warning and is still a current standard.

Sample: Portable Washing machine



Test Summary

Safety Criteria	Results	Comments
Plugs and fuse	Pass	-
Classification	Pass	-
Initial operation	Pass	-
Marking and instructions	Fail	See OBS 15 See NC 8
Protection against access to live parts	Fail	See NC 9
Power input and current	Pass	-
Heating	Pass	-
Leakage current and electric strength	Pass	-
Abnormal operation	Pass	-
Mechanical strength	Pass	-
Construction	Pass	-
Internal wiring	Fail	See OBS 16
Supply connection and external flexible cords	Pass	-
Provision for earthing	Pass	-
Clearance, creepage distance and solid insulation	Pass	-

Non Conformity/Observations:

OBS 15 – The sample was marked with an undersized ‘CE’ symbol as required by Low Voltage Directive.

NC 8 – The User Manual does not have the following warning statements:

- “This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.”
- “If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard”

NC 9 – The sample fails to meet the requirements of clause 8, giving access to live parts (basic insulation), which is accessible from the rear of the appliance.

OBS 16 – During the evaluation it was observed that the electrical wiring was not secured and could potentially reduce creepage and clearances distance. The unsecured wiring could also come into contact with the driving belt and cause a hazardous situation. This observation also contributes to the non conformity (NC 9) raised above.

