Ente Certificazione Macchine

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Turkish Branch: Testroof Engineering and Certification Co., Ltd.

2014/35/EU
Technical Requirement Assesment Report
EN 60335-1:2012/AC:2014
EN 60335-2-49:2003/A11:2012
Household and similar electrical appliances - Safety – Part 2-49:
Particular requirements for commercial electric appliances for keeping food and crockery warm

Applicant/Holder ..... :	İZMAK TURİZM SOĞUTMA VE END. MUTFAK SAN.TİC.LTD.ŞTİ. Fatih Mah. 1140 Sk. No:7 Sarnıç / İzmir / TURKEY
Manufacturer ..... :	İZMAK TURİZM SOĞUTMA VE END. MUTFAK SAN.TİC.LTD.ŞTİ. Fatih Mah. 1140 Sk. No:7 Sarnıç / İzmir / TURKEY
Product / Model(s)	Hot&Cold Saladbar / SB C 90, SB C 120, SB C 155, SB C 220, SB H 90, SB H 120, SB H 155, SB H 220, SB HC 155, SB HC 220
Testing Model	SB HC 155
Testing Laboratary	Testroof Mühendislik ve Belgelendirme Tic. Ltd. Şti.
Testing Address ..... :	Fatih Mah. 1140 Sk. No:7 Sarnıç / İzmir / TURKEY
Report Number ..... :	TRA-17/0297/02
Date of issue ..... :	2017-10-23
Standard ..... :	EN 60335-1:2012/AC:2014 EN 60335-2-49:2003/A11:2012
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Compiled by ..... :	Eng. E. CENGIZ	Approved by ..... :	Eng. M. KOCAS
(PASS signature)		(PASS signature)	
test case does not applytothe test object..... :		N	
test object does meet the requirement..... :		PASS	
test object does not meet the requirement..... :		F(ail)	

The variants (SB C 90, SB C 120, SB C 155, SB C 220, SB H 90, SB H 120, SB H 155, SB H 220, SB HC 155, SB HC 220) were analyzed and verified similar to the tested one (same construction, components and enclosure). The difference has no impact on the safety characteristics, then the result of this test report are valid for all models.

"(see remark #)" refers to a remark appended to the report.

"(see appended table)" refers to a table appended to the report.

Through out this report a comma is used as the decimal separator.

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Clause	Requirement	Result Remark	Verdict
6.	**Classification**		
6.1	Appliances shall be **class I** with respect to protection against electric shock.	✓	**PASS**
6.2	Appliances shall have the appropriate degree of protection against harmful ingress of water.	✓ *IPX0*	**PASS**
7.	**Marking and instructions**		
7.1	Appliances shall be marked with the – **rated voltage** or **rated voltage range** in volts; – symbol for nature of supply, unless the **rated frequency** is marked; – **rated power input** in watts or **rated current** in amperes; – name, trade mark or identification mark of the manufacturer or responsible vendor; – model or type reference; – symbol 5172 of IEC 60417, for **class II appliances** only; – IP number according to degree of protection against ingress of water, other than IPX0. * The enclosure of electrically-operated water valves incorporated in external hose-sets for connection of an appliance to the water mains shall be marked with symbol IEC 60417-5036 (DB:2002-10) if their **working voltage** exceeds **extra-low voltage.** In addition, appliances shall be marked with the water pressure or range of pressures, in kilopascals (kPa), for appliances intended to be connected to a water supply, unless this is indicated in the instructions.	*230 VAC 1N-PE 50 Hz* *1500 W* *SB HC 155*	
7.2	**Stationary appliances** for multiple supply shall be marked with the substance of the following: Warning: Before obtaining access to terminals, all supply circuits must be disconnected. This warning shall be placed in the vicinity of the terminal cover.	*Not have multiple supply*	**N**
7.3	* Appliances having a range of rated values and which can be operated without adjustment throughout the range shall be marked with the lower and upper limits of the range separated by a hyphen. * Appliances having different rated values and which have to be adjusted for use at a particular value by the user or installer shall be marked with the different values separated by an oblique stroke.	*Not have a range of rated values*	**N**
7.4	If the appliance can be adjusted for different **rated voltages**, the voltage to which the appliance is adjusted shall be clearly discernible.	*Can not be adjusted for different rated voltages*	**N**
7.5	* For appliances marked with more than one **rated voltage** or with one or more **rated voltage ranges**, the **rated power input** or **rated current** for each of these voltages or ranges shall be marked. However, if the difference between the limits of a **rated voltage range** does not exceed 10 % of the mean value of the range, the marking for **rated power input** or **rated current** may be related to the mean value of the range. * The upper and lower limits of the **rated power input** or **rated current** shall be marked on the appliance so that the relation between input and voltage is clear.	*Not marked with more than one rated voltage*	**N**

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Clause	Requirement	Result Remark	Verdict
7.6	When symbols are used, they shall be as shown in standard. The symbol for nature of supply shall be placed next to the marking for **rated voltage**. The symbol for **class II appliances** shall be placed so that it will be obvious that it is a part of the technical information and is unlikely to be confused with any other marking. Units of physical quantites and their symbols shall be those of the international standardized system.	✔	**PASS**
7.7	Appliances to be connected to more than two supply conductors and appliances for multiple supply shall have a connection diagram fixed to them, unless the correct mode of connection is obvious.	***Have only two supply conductor***	**N**
7.8	Except for **type Z attachment**, terminals used for connection to the supply mains shall be indicated as follows: – terminals intended exclusively for the neutral conductor shall be indicated by the letter N; – protective earthing terminals shall be indicated by symbol 5019 of IEC 60417. These indications shall not be placed on screws, removable washers or other parts which can be removed when conductors are being connected.	✔	**PASS**
7.9	Unless it is obviously unnecessary, switches which may give rise to a hazard when operated shall be marked or placed so as to indicate clearly which part of the appliance they control. Indications used for this purpose shall, wherever practicable, be comprehensible without a knowledge of languages or national standards.	✔	**PASS**
7.10	* The different positions of switches on **stationary appliances** and the different positions of controls on all appliances shall be indicated by figures, letters or other visual means. * If figures are used for indicating the different positions, the **off position** shall be indicated by the figure 0 and the position for a higher value, such as output, input, speed or cooling effect, shall be indicated by a higher figure. * The figure 0 shall not be used for any other indication unless it is positioned and associated with other numbers so that it does not give rise to confusion with the indication of the **off position.**	✔	**PASS**
7.11	Controls intended to be adjusted during installation or in normal use shall be provided with an indication for the direction of adjustment.	✔	**PASS**
7.12	* Instructions for use shall be provided with the appliance so that the appliance can be used safely. * If it is necessary to take precautions during **user maintenance**, appropriate details shall be given. The instructions of appliances provided with wheels or similar means shall also state the maximum load, in kilograms (kg), of the appliance.	✔	**PASS**

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Clause	Requirement	Result Remark	Verdict
7.12.1	The appliance shall be accompanied by instructions detailing any special precautions necessary for installation. For appliances intended for installation in a bank of other appliances and appliances intended to be fixed to an **installation wall,** details of how to ensure appropriate protection against electric shock and harmful ingress of water shall be supplied. If the controls of more than one appliance are combined in a separate enclosure, detailed installation instructions shall be supplied. Instructions for **user maintenance**, for example cleaning, shall also be given. They shall include a statement that the appliance is not to be cleaned with a water jet. For appliances that are permanently connected to fixed wiring and for which leakage currents may exceed 10 mA, particularly if disconnected or not used for long periods, or during initial installation, the instruction sheet shall give recommendations regarding the rating of **protective devices**, such as earth leakage relays, to be installed.	✔	**PASS**
7.12.2	The appliance shall be accompanied by instructions detailing any special precautions necessary for installation. For appliances intended for installation in a bank of other appliances and appliances intended to be fixed to an **installation wall,** details of how to ensure appropriate protection against electric shock and harmful ingress of water shall be supplied. If the controls of more than one appliance are combined in a separate enclosure, detailed installation instructions shall be supplied. Instructions for **user maintenance**, for example cleaning, shall also be given. They shall include a statement that the appliance is not to be cleaned with a water jet.	✔	**PASS**
7.12.3	If the insulation of the fixed wiring supplying an appliance for permanent connection to the supply mains can come into contact with parts having temperature rise exceeding 50 K during the test of clause 11, the instructions shall state that the fixed wiring insulation must be protected, for example, by insulating sleeving having an appropriate temperature rating.	***Not have permanent connection***	**N**
7.12.4	The instructions for **built-in appliances** shall include information with regard to the following: – dimensions of the space to be provided for the appliance; – dimensions and position of the means for supporting and fixing the appliance within this space; – minimum distances between the various parts of the appliance and the surrounding structure; – minimum dimensions of ventilating openings and their correct arrangement; – connection of the appliance to the supply mains and the interconnection of any separate components; – necessity to allow disconnection of the appliance from the supply after installation, unless the appliance incorporates a switch complying with 24.3. The disconnection may be achieved by having the plug accessible or by incorporating a switch in the fixed wiring in accordance with the wiring rules. The instructions for **built-in appliances** having a separate control panel for several appliances shall state that the control panel is only to be connected to the specified appliances in order to avoid a possible hazard.	***Not a built-in appliance***	**N**

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Clause	Requirement	Result Remark	Verdict
7.12.5	For appliances with **type X attachment** having a specially prepared cord, the instructions shall contain the substance of the following. If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or its service agent. For appliances with **type Y attachment**, the instructions shall contain the substance of the following. 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. For appliances with **type Z attachment**, the instructions shall contain the substance of the following. The supply cord cannot be replaced. If the cord is damaged the appliance should be scrapped.	✓	**PASS**
7.12.6	The instructions for **heating appliances** incorporating a **non-self-resetting thermal cut-out** that is reset by disconnection of the supply mains shall contain the substance of the following: CAUTION: In order to avoid a hazard due to inadvertent resetting of the thermal cutout, this appliance must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility.	✓	**PASS**
7.12.7	The instructions for **fixed appliances** shall state how the appliance is to be fixed to its support.	✓	**PASS**
7.12.8	The instructions for appliances connected to the water mains shall state – the maximum inlet water pressure, in pascals; – the minimum inlet water pressure, in pascals, if this is necessary for the correct operation of the appliance. The instructions for appliances connected to the water mains by **detachable hose-sets** shall state that the new hose-sets supplied with the appliance are to be used and that old hose-sets should not be reused.	***Not Connected to the water mains***	**N**
7.13	Instructions and other text required by this standard shall be written in an official language of the country in which the appliance is to be sold.	***Turkish / English***	**PASS**
7.14	The markings required by the standard shall be clearly legible and durable.	✓	**PASS**

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Clause	Requirement	Result Remark	Verdict
7.15	The markings specified in 7.1 to 7.5 shall be on a main part of the appliance. Markings on the appliance shall be clearly discernible from the outside of the appliance but if necessary after removal of a cover. For **portable appliances** it shall be possible to remove or open this cover without the aid of a **tool**. For **stationary appliances** at least the name or trade mark or identification mark of the manufacturer or responsible vendor and the model or type reference shall be visible when the appliance is installed as in normal use. These markings may be beneath a **detachable cover**. Other markings may be beneath a cover only if they are near to the terminals. For **fixed appliances**, this requirement applies after the appliance has been installed according to the instructions provided with the appliance. Indications for switches and controls shall be placed on or near these components. They shall not be placed on parts which can be positioned or repositioned in such a way that the marking is misleading. When it is not practical to place the marking of **fixed appliances** so that it is visible after the appliance has been installed, the relevant information shall also be included in the instructions for use or on an additional label that can be fixed near the appliance after installation.	✔	**PASS**
7.16	If compliance with this standard depends upon the operation of a replaceable **thermal link** or fuse link, the reference number or other means for identifying the link shall be marked at such a place that it is clearly visible when the appliance has been dismantled to the extent necessary for replacing the link. This requirement does not apply to links which can only be replaced together with a part of the appliance.	✔	**PASS**
7.101	Equipotential bonding terminals shall be marked with symbol 5021 of IEC 60417-1. These markings shall not be placed on screws, removable washers or other parts that can be removed when conductors are being connected.	✔	**PASS**
8			
8.1	Appliances shall be constructed and enclosed so that there is adequate protection against accidental contact with **live parts**.	✔	**PASS**
8.1.1	The requirement of 8.1 applies for all positions of the appliance when it is operated as in normal use, and after the removal of **detachable parts**.	✔	**PASS**
8.1.2	Test probe 13 of IEC 61032 is applied without appreciable force through openings in **class 0 appliances**, **class II appliances** and **class II constructions**, except for those giving access to lamp caps and **live parts** in socket-outlets.	***Class I Appliance***	**N**
8.1.3	Instead of test probe B and test probe 13, for appliances other than those of **class II**, test probe 41 of IEC 61032 is applied without appreciable force to ***live parts*** *of* ***visibly glowing heating elements***, all poles of which can be disconnected by a single switching action. It is also applied to parts supporting such elements, provided that it is obvious from the outside of the appliance, without removing covers and similar parts, that these supporting parts are in contact with the element. It shall not be possible to touch these **live parts**.	✔	**PASS**

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Clause	Requirement	Result Remark	Verdict
8.1.4	An **accessible part** is not considered to be live if – the part is supplied at **safety extra-low voltage**, provided that • for a.c., the peak value of the voltage does not exceed 42,4 V, • for d.c., the voltage does not exceed 42,4 V, or – the part is separated from **live parts** by **protective impedance**. If **protective impedance** is used, the current between the part and the supply source shall not exceed 2 mA for d.c., its peak value shall not exceed 0,7 mA for a.c. and – for voltages having a peak value over 42,4 V up to and including 450 V, the capacitance shall not exceed 0,1 □F, – for voltages having a peak value over 450 V up to and including 15 kV, the discharge shall not exceed 45 □C.	✔	**PASS**
8.1.5	**Live parts** of **built-in appliances, fixed appliances** and appliances delivered in separate units, shall be protected at least by **basic insulation** before installation or assembly.	✔	**PASS**
8.2	**Class II appliances** and **class II constructions** shall be constructed and enclosed so that there is adequate protection against accidental contact with **basic insulation** and metal parts separated from **live parts** by **basic insulation** only. It shall only be possible to touch parts which are separated from **live parts** by **double insulation** or **reinforced insulation**.	✔	**PASS**
9.			
9.101	Fan motors providing a cooling effect in order to comply with the requirements of Clause 11 shall start under all voltage conditions that may occur in use.	✔	**PASS**
10.	**Power input and current**		
10.1	If an appliance is marked with **rated power input**, the power input at normal operating temperature shall not deviate from the **rated power input** by more than the deviation shown in table 1 The deviation for **motor-operated appliances** applies for **combined appliances** if the power input of the motors is more than 50 % of the **rated power input**. NOTE 101 For appliances having more than one heating unit, the total power input may be determined by measuring the power input of each heating unit separately	✔ *See Annex*	**PASS**
10.2	If an appliance is marked with **rated current**, the current at normal operating temperature shall not deviate from the **rated current** by more than the deviation shown in table 2. The deviation for **motor-operated appliances** applies for **combined appliances** if the current of the motors is more than 50 % of the **rated current**	*1500 W, 7 A*	**PASS**
11.	**Heating**		
11.1	Appliances and their surroundings shall not attain excessive temperatures in normal use	✔	**PASS**

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Clause	Requirement	Result Remark	Verdict
11.2	**Hand-held appliances** are held in their normal position of use. Appliances with pins for insertion into socket-outlets are plugged into an appropriate wallmounted socket-outlet. **Built-in appliances** are installed in accordance with the instructions. Appliances intended to be fixed to the floor and appliances with a mass greater than 40 kg and not provided with rollers, castors or similar means are installed in accordance with the manufacturer's instructions. If no instructions are given, these appliances are considered as appliances normally placed on the floor.	✓	**PASS**
11.3	Temperature rises, other than those of windings, are determined by means of fine-wire thermocouples positioned so that they have minimum effect on the temperature of the part under test. Thermocouples used for etermining the temperature rise of the surface of walls, ceiling and floor of the test corner are attached to the back of small blackened disks of copper or brass, 15 mm in diameter and 1 mm thick. The front of the disk is flush with the surface of the board. As far as is possible, the appliance is positioned so that the thermocouples detect the highest temperatures. The temperature rise of electrical insulation, other than that of windings, is determined on the surface of the insulation at places where failure could cause – a short circuit; – contact between **live parts** and **accessible metal parts**; – bridging of insulation; – a reduction of **clearances** or **creepage distances** below the values specified in clause 29. Temperature rises of windings are determined by the resistance method unless the windings are non-uniform or if it is difficult to make the necessary connections, in which case the temperature rise is determined by means of thermocouples.	✓ ***See Annex***	**PASS**
11.4	Appliances are operated under **normal operation** such that the total power input of the appliance is 1,15 times **rated power input**. If it is not possible to switch on all heating elements at the same time, the test is made with each of the combinations that the switch arrangement will allow, the highest load possible with each switching arrangement being in circuit.	✓	**PASS**
11.5	**Motor-operated appliances** are operated under **normal operation** and supplied with the most unfavourable voltage between 0,94 times and 1,06 times the **rated voltage**.	✓	**PASS**
11.6	**Combined appliances** are operated under **normal operation** and supplied with the most unfavourable voltage between 0,94 times and 1,06 times the **rated voltage**.	✓	**PASS**
11.7	Appliances are operated until steady conditions are established.	✓	**PASS**

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Clause	Requirement	Result Remark	Verdict
11.8	During the test, the temperature rises are monitored continuously and shall not exceed the values shown in table 3. However, if the temperature rise of the motor winding exceeds the value specified in table 3 or if there is doubt with regard to the temperature classification of the insulation of the motor, the tests of annex C are carried out. **Protective devices** shall not operate and sealing compound shall not flow out. However, components in **protective electronic circuits** are allowed to operate provided they are tested for the number of cycles of operation specified in 24.1.4.	✓ ***See Annex***	**PASS**
12	**VOID**		
13.			
13.1	At operating temperature, the leakage current of the appliance shall not be excessive and its electric strength shall be adequate	✓ ***See Annex***	**PASS**
13.2	The leakage current is measured by means of the circuit described in figure 4 of IEC 60990 between any pole of the supply and ***accessible metal parts*** connected to metal foil having an area not exceeding *20 cm 10* cm which is in contact with **accessible** ***surfaces*** *of* insulating materials.	✓ ***See Annex***	**PASS**
13.3	The appliance is disconnected from the supply and the insulation is immediately subjected to a voltage having a frequency of 50 Hz or 60 Hz for 1 min, in accordance with IEC 61180-1. The high-voltage source used for the test is to be capable of supplying a short circuit current Is between the output terminals after the output voltage has been adjusted to the appropriate test voltage. The overload release of the circuit is not to be operated by any current below the tripping current Ir. The values of Is and Ir are given in Table 5 for various high-voltage sources. The test voltage is applied between **live parts** and **accessible parts**, non-metallic parts being covered with metal foil. For **class II constructions** having intermediate metal between **live parts** and **accessible parts**, the voltage is applied across the **basic insulation** and the **supplementary insulation.**	✓ ***See Annex***	**PASS**
14	**Transient overvoltages**		
	Appliances shall withstand the transient overvoltages to which they may be subjected. Compliance is checked by subjecting each **clearance** having a value less than those specified in table 16 to an impulse voltage test. The impulse test voltage has a no-load waveshape corresponding to the *1,2/50* ☐*s* standard impulse specified in *IEC 61180-1.* It is supplied from a generator having a virtual impedance of *12* ☐. The impulse test voltage is applied three times for each polarity with intervals of at least *1 s.* The impulse test voltage is specified in table 6 for **rated impulse voltages** given in table 15	✓ ***See Annex***	**PASS**
15.	**Moisture resistance**		
15.1	The enclosure of the appliance shall provide the degree of protection against moisture in accordance with the classification of the appliance.	✓	**PASS**

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Clause	Requirement	Result Remark	Verdict
15.1.1	*Appliances other than those classified IPX0 are subjected to the tests of IEC 60529 as follows:* *– IPX1 appliances as described in subclause 14.2.1;* *– IPX2 appliances as described in subclause 14.2.2;* *– IPX3 appliances as described in subclause 14.2.3a;* ☐☐ *IPX4 appliances as described in subclause 14.2.4a;* *– IPX5 appliances as described in subclause 14.2.5;* *– IPX6 appliances as described in subclause 14.2.6;* *– IPX7 appliances as described in subclause 14.2.7. For this test the appliance is immersed in water containing approximately 1 % NaCl* *Water valves containing* ***live parts*** *and that are incorporated in external hoses for connection of an appliance to the water mains are subjected to the test specified for IPX7 appliances.* *In addition, IPX0, IPX1, IPX2, IPX3 and IPX4 appliances are subjected for 5 min to the following splash test.*	***IPX0***	**N**
15.1.2	**Hand-held appliances** are turned continuously through the most unfavourable positions during the test. **Built-in appliances** are installed in accordance with the instructions.	***Not a hand-held appliance and built-in appliance***	**PASS**
15.2	Appliances shall be constructed so that spillage of liquid in normal use does not affect their electrical insulation.	✓	**PASS**
15.3	Appliances shall be proof against humid conditions that may occur in normal use.	✓	**PASS**
15.101	Appliances that are provided with a tap intended for filling or cleaning shall be constructed so that the water from the tap cannot come into contact with **live parts**.	***Not have a tap***	**N**
16			
16.1	The leakage current of the appliance shall not be excessive and its electric strength shall be.	✓ ***See Annex***	**PASS**
16.2	An a.c. test voltage is applied between **live parts** and **accessible metal parts** that are connected to metal foil having an area not exceeding *20 cm* ☐ *10* cm in contact with **accessible surfaces** of insulating materials. The test voltage is – 1,06 times **rated voltage**, for single-phase appliances; – 1,06 times **rated voltage**, divided by 3 , for three-phase appliances. The leakage current is measured within 5 s after the application of the test voltage. The leakage current shall not exceed the following values: – for **class II appliances** 0,25 mA – for **class 0**, **class 0I** and **class III appliances** 0,5 mA – for **portable class I appliances** 10 mA – for **stationary class I motor-operated appliances** 3,5 mA – for **stationary class I heating appliances** 0,75 mA or 0,75 mA per kW **rated power input** of the appliance with a maximum of 5 mA, whichever is higher	✓ ***See Annex***	**PASS**

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Clause	Requirement	Result Remark	Verdict
16.3	Immediately after the test of 16.2, the insulation is subjected to a voltage of substantially sinusoidal waveform having a frequency of 50 Hz or 60 Hz for 1 min. The values of the test voltage for different types of insulation are given in table 7. **Accessible parts** of insulating material are covered with metal foil. A test voltage is applied between **accessible metal parts** and the **supply cord** which is wrapped with metal foil where it is located in an inlet bushing, a cord guard or a cord anchorage, any clamping screws being tightened to two-thirds of the torque specified in table 14. The test voltage is 1 250 V for **class 0 appliances** and **class I appliances** and 1 750 V for **class II appliances**.	✓ *See Annex*	**PASS**
17.	**Overload protection of transformers and associated circuits**		
	Appliances incorporating circuits supplied from a transformer shall be constructed so that in the event of short circuits which are likely to occur in normal use, excessive temperatures do not occur in the transformer or in the circuits associated with the transformer.	✓	**PASS**
18.	**Endurance**		
	NOTE Requirements and tests are specified in part 2 when necessary.		
19.	**Abnormal operation**		
19.1	Appliances shall be constructed so that as a result of abnormal or careless operation, the risk of fire, mechanical damage impairing safety or protection against electric shock is obviated as far as is practicable. **Electronic circuits** shall be designed and applied so that a fault condition will not render the appliance unsafe with regard to electric shock, fire hazard, mechanical hazard or **dangerous malfunction**. A control or switching device that is intended for different settings corresponding to different functions of the same part of the appliance and that are covered by different standards is, in addition, set in the most severe setting irrespective of the manufacturer's instructions	✓	**PASS**
19.2	Appliances with heating elements are tested under the conditions specified in clause 11 but with restricted heat dissipation. The supply voltage, determined prior to the test, is that required to provide a power input of 0,85 times **rated power input** under **normal operation** when the power input has stabilized. This voltage is maintained throughout the test. Fan motors are rendered inoperative. Doors or lids are open or closed, whichever is the more unfavourable. Surfaces incorporating heating elements and **heated tops** heated indirectly by the **hot cupboard** heating elements are covered with a layer of felt having a mass of 4 kg/m2 ± 0,4 kg/m2 and a thickness of 25 mm	✓	**PASS**
19.3	The test of 19.2 is repeated but with a supply voltage, determined prior to the test, equal to that required to provide a power input of 1,24 times **rated power input** under **normal operation** when the power input has stabilized. This voltage is maintained throughout the test.	✓	**PASS**
19.4	The appliance is tested under the conditions specified in clause 11. Any control that limits the temperature during the test of clause 11 is short-circuited.	✓	**PASS**

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Clause	Requirement	Result Remark	Verdict
19.5	The test of 19.4 is repeated on **class 0I appliances** and **class I appliances** incorporating tubular sheathed or embedded heating elements. However, controls are not short-circuited but one end of the element is connected to the sheath of the heating element. This test is repeated with the polarity of the supply to the appliance reversed and with the other end of the element connected to the sheath. The test is not carried out on appliances intended to be permanently connected to fixed wiring and on appliances where an **all-pole disconnection** occurs during the test of 19.4.	*Not incorporating tubular sheathed*	N
19.6	Appliances with **PTC heating elements** are supplied at **rated voltage** until steady conditions with regard to power input and temperature are established. The **working voltage** of the **PTC heating element** is increased by 5 % and the appliance is operated until steady conditions are re-established. The voltage is then increased in similar steps until 1,5 times **working voltage** is reached, or until the **PTC heating element** ruptures, whichever occurs first.	✓	PASS
19.7	The appliance is operated under stalled conditions by – locking the rotor if the locked rotor torque is smaller than the full load torque; – locking moving parts of other appliances.	✓	PASS
19.8	One phase of appliances incorporating three-phase motors is disconnected. The appliance is then operated under **normal operation** and supplied at **rated voltage** for the period specified in 19.7.	✓	PASS
19.9	A running overload test is carried out on appliances incorporating motors that are intended to be remotely or automatically controlled or liable to be operated continuously.	✓	PASS
19.10	Appliances incorporating series motors are operated with the lowest possible load and supplied at 1,3 times **rated voltage** for 1 min.	✓	PASS
19.11	**Electronic circuits** are checked by evaluation of the fault conditions specified in 19.11.2 for all circuits or parts of circuits, unless they comply with the conditions specified in 19.11.1.	*Not have electronic circuit*	N
19.11.1	Fault conditions a) to f) specified in 19.11.2 are not applied to circuits or parts of circuits when both of the following conditions are met: – the **electronic circuit** is a low-power circuit as described below; – protection against electric shock, fire hazard, mechanical hazard or **dangerous malfunction** of other parts of the appliance does not rely on the correct functioning of the **electronic circuit**.	*Not have electronic circuit*	N
19.11.2	The following fault conditions are considered and, if necessary, applied one at a time, consequential faults being taken into consideration: a) short circuit of **functional insulation** if **clearance**s or **creepage distances** are less than the values specified in clause 29; b) open circuit at the terminals of any component; c) short circuit of capacitors, unless they comply with IEC 60384-14; d) short circuit of any two terminals of an **electronic component**, other than an integrated circuit. This fault condition is not applied between the two circuits of an optocoupler; e) failure of triacs in the diode mode; f) failure of an integrated circuit. All possible output signals are considered for faults occurring within the integrated circuit. If it can be shown that a particular output signal is unlikely to occur, then the relevant fault is not considered.	✓	PASS

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Clause	Requirement	Result Remark	Verdict
19.11.3	If the appliance incorporates a **protective electronic circuit** which operates to ensure compliance with clause 19, the relevant test is repeated with a single fault simulated, as indicated in a) to f) of 19.11.2.	*Not have protective electronic circuit*	N
19.11.4	Appliances having a switch with an **off position** obtained by electronic disconnection, or a switch that can be placed in the stand-by mode, are subjected to the tests of 19.11.4.1 to 19.11.4.7. The tests are carried out with the appliance supplied at **rated voltage**, the switch being set in the **off position** or in the stand-by mode. Appliances incorporating a **protective electronic circuit** are subjected to the tests of 19.11.4.1 to 19.11.4.7. The tests are carried out after the **protective electronic circuit** has operated during the relevant tests of Clause 19 except 19.2, 19.6 and 19.11.3. However, appliances that are operated for 30 s or 5 min during the test of 19.7 are not subjected to the tests for electromagnetic phenomena. The tests are carried out with surge arresters disconnected, unless they incorporate spark gaps.	*Not have electronic disconnection*	N
19.11.4.1	The appliance is subjected to electrostatic discharges in accordance with IEC 61000-4-2, test level 4 being applicable. Ten discharges having a positive polarity and ten discharges having a negative polarity are applied at each preselected point.	*Not have electronic disconnection*	N
19.11.4.2	The appliance is subjected to radiated fields in accordance with IEC 61000-4-3, test level 3 being applicable.	*Not have electronic disconnection*	N
19.11.4.3	The appliance is subjected to fast transient bursts in accordance with IEC 61000-4-4. Test level 3 is applicable for signal and control lines. Test level 4 is applicable for the power supply lines. The bursts are applied for 2 min with a positive polarity and for 2 min with a negative polarity.	*Not have electronic disconnection*	N
19.11.4.4	The power supply terminals of the appliance are subjected to voltage surges in accordance with IEC 61000-4-5, five positive impulses and five negative impulses being applied at the selected points. Test level 3 is applicable for the line-to-line coupling mode, a generator having a source impedance of 2 ☐☐being used. Test level 4 is applicable for the line-to-earth coupling mode, a generator having a source impedance of 12 ☐☐being used. Earthed heating elements in **class I appliances** are disconnected during this test. For appliances having surge arresters incorporating spark gaps, the test is repeated at a level that is 95 % of the flashover voltage.	*Not have electronic disconnection*	N
19.11.4.5	The appliance is subjected to injected currents in accordance with IEC 61000-4-6, test level 3 being applicable. During the test, all frequencies between 0,15 MHz to 80 MHz are covered	*Not have electronic disconnection*	N
19.11.4.6	The appliance is subjected to voltage dips and interruptions in accordance with IEC 61000-4-11. The durations specified in Table 1 of IEC 61000-4-11 are applied to each test level, the dips and interruptions being applied at zero crossing of the supply voltage.	*Not have electronic disconnection*	N
19.11.4.7	The appliance is subjected to mains signals in accordance with IEC 61000-4-13, test level class 2 being applicable.	*Not have electronic disconnection*	N

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Clause	Requirement	Result Remark	Verdict
19.12	If safety of the appliance depends upon the operation of a miniature fuse-link complying with IEC 60127 during any of the fault conditions specified in 19.11.2, the test is repeated but with the miniature fuse-link replaced by an ammeter. If the current measured. -does not exceed 2,1 times the rated current of the fuse-link, the circuit is not considered to be adequately protected and the test is carried out with the fuse-link short-circuited; – is at least 2,75 times the rated current of the fuse-link, the circuit is considered to be adequately protected; – is between 2,1 times and 2,75 times the rated current of the fuse-link, the fuse link is short-circuited and the test is carried out ☐☐for the relevant period or for 30 min, whichever is the shorter, for quick acting fuselinks; ☐☐for the relevant period or for 2 min, whichever is the shorter, for time lag fuse-links.	✔	**PASS**
19.13	During the tests the appliance shall not emit flames, molten metal, or poisonous or ignitable gas in hazardous amounts and temperature rises shall not exceed the values shown in table 9. After the tests and when the appliance has cooled to approximately room temperature, the enclosure shall not have deformed to such an extent that compliance with clause 8 is impaired and the appliance shall comply with 20.2 if it can still be operated. When the insulation, other than that of **class III appliances**, has cooled down to approximately room temperature, it shall withstand the electric strength test of 16.3, the test voltage, however, being as specified in table 4. For appliances which are immersed in or filled with conducting liquid in normal use, the appliance is immersed in or filled with water for 24 h before the electric strength test is carried out. The appliance shall not undergo a **dangerous malfunction**, and there shall be no failure of **protective electronic circuits** if the appliance is still operable. Appliances tested with an electronic switch in the **off position**, or in the stand-by mode, shall not become operational.	✔	**PASS**
20.	**Stability and mechanical hazards**		
20.1	Appliances, other than **fixed appliances** and **hand-held appliances**, intended to be used on a surface such as the floor or a table shall have adequate stability. Appliances provided with doors, covers or lids, racks and other accessories are tested with doors open or closed, racks partially or fully extended, with or without covers or lids or other accessories, whichever is the more unfavourable.	✔	**PASS**
20.2	Moving parts of appliances shall, as far as is compatible with the use and working of the appliance, be positioned or enclosed to provide adequate protection against personal injury in normal use Moving parts of motor and fan assemblies of appliances where the fan motor can be operated when the door is open shall be arranged or enclosed so that adequate protection against injury is provided during normal use including cleaning.	✔	**PASS**
20.101	Guards fitted over motor and fan assemblies in order to comply with the requirements of 20.2 shall not be **detachable parts** unless – a suitable interlock assembly is fitted that prevents the motor or fan from operating when the guard is removed; – the guard forms an integral part of the internal lining.	***Not have guards***	**N**

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Clause	Requirement	Result Remark	Verdict
21.	**Mechanical strength**		
21.1	Appliances shall have adequate mechanical strength and be constructed to withstand such rough handling that may be expected in normal use.	✓	**PASS**
21.2	**Accessible parts** of solid insulation shall have sufficient strength to prevent penetration by sharp implements.	✓	**PASS**
22.	**Construction**		
22.1	If the appliance is marked with the first numeral of the IP system, the relevant requirements of IEC 60529 shall be fulfilled.	✓	**PASS**
22.2	For **stationary appliances**, means shall be provided to ensure **all-pole disconnection** from the supply mains. Such means shall be one of the following: – a **supply cord** fitted with a plug; – a switch complying with 24.3; – a statement in the instructions that a disconnection incorporated in the fixed wiring is to be provided; – an appliance inlet. Single-pole switches, and single-pole **protective devices** that disconnect heating elements from the supply mains, in single-phase, permanently connected **class I appliances** shall be connected to the phase conductor.	✓	**PASS**
22.3	Appliances with pins for insertion into socket-outlets shall not impose undue strain on these socket-outlets. The means for retaining the pins shall withstand the forces to which the pins are likely to be subjected in normal use.	✓	**PASS**
22.4	Appliances for heating liquids and appliances causing undue vibration shall not be provided with pins for insertion into socket-outlets.	✓	**PASS**
22.5	Appliances intended to be connected to the supply mains by means of a plug shall be constructed so that in normal use there is no risk of electric shock from charged capacitors when the pins of the plug are touched.	✓	**PASS**
22.6	Appliances shall be constructed so that their electrical insulation cannot be affected by water that could condense on cold surfaces or by liquid that could leak from containers, hoses, couplings and similar parts of the appliance. The electrical insulation of **class II appliances** and **class II constructions** shall not be affected if a hose ruptures or a seal leaks.	✓	**PASS**
22.7	Appliances containing liquid or gases in normal use or having steam-producing devices shall incorporate adequate safeguards against the risk of excessive pressure.	✓	**PASS**
22.8	For appliances having compartments to which access can be gained without the aid of a **tool** and that are likely to be cleaned in normal use, the electrical connections shall be arranged so that they are not subject to pulling during cleaning.	✓	**PASS**
22.9	Appliances shall be constructed so that parts such as insulation, internal wiring, windings, commutators and slip rings are not exposed to oil, grease or similar substances, unless the substance has adequate insulating properties so that compliance with the standard is not impaired.	✓	**PASS**

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Clause	Requirement	Result Remark	Verdict
22.10	It shall not be possible to reset voltage-maintained **non-self-resetting thermal cutouts** by the operation of an automatic switching device incorporated within the appliance. Non-self-resetting thermal motor protectors shall have a trip-free action unless they are voltage maintained. Reset buttons of non-self-resetting controls shall be located or protected so that their accidental resetting is unlikely to occur if this could result in a hazard.	✔	**PASS**
22.11	**Non-detachable parts** that protect against access to **live parts**, moisture or contact with moving parts shall be fixed in a reliable manner and withstand the mechanical stress occurring during normal use. Snap-in devices used for fixing such parts shall have an obvious locked position. The fixing properties of snap-in devices used in parts that are likely to be removed during installation or servicing shall be reliable.	✔	**PASS**
22.12	Handles, knobs, grips, levers and similar parts shall be fixed in a reliable manner so that they will not work loose in normal use if loosening could result in a hazard. If these parts are used to indicate the position of switches or similar components, it shall not be possible to fix them incorrectly if this could result in a hazard.	✔	**PASS**
22.13	Appliances shall be constructed so that when handles are gripped in normal use, contact is unlikely between the operator's hand and parts having a temperature rise exceeding the value specified in table 3 for handles which are held for short periods only in normal use.	✔	**PASS**
22.14	Appliances shall have no ragged or sharp edges, other than those necessary for the functioning of the appliance, that could create a hazard for the user in normal use or during **user maintenance**. Pointed ends of self-tapping screws or other fasteners shall be located so that they are unlikely to be touched by the user in normal use or during **user maintenance**.	✔	**PASS**
22.15	Storage hooks and similar devices for flexible cords shall be smooth and wellrounded. Appliances intended to transport food or other loads shall be provided with a suitable means to protect the **supply cord** from damage during transportation.	✔	**PASS**
22.16	Automatic cord reels shall be constructed so that they do not cause – undue abrasion or damage to the sheath of the flexible cord; – breakage of conductor strands; – undue wear of contacts.	✔	**PASS**
22.17	Spacers intended to prevent the appliance from overheating walls shall be fixed so that it is not possible to remove them from the outside of the appliance by hand or by means of a screwdriver or a spanner.	✔	**PASS**
22.18	Current-carrying parts and other metal parts, the corrosion of which could result in a hazard, shall be resistant to corrosion under normal conditions of use.	✔	**PASS**
22.19	Driving belts shall not be relied upon to provide the required level of insulation unless they are constructed to prevent inappropriate replacement.	***Not have driving belts***	**N**
22.20	Direct contact between **live parts** and thermal insulation shall be effectively prevented unless such material is non-corrosive, non-hygroscopic and non-combustible.	✔	**PASS**

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Clause	Requirement	Result Remark	Verdict
22.21	Wood, cotton, silk, ordinary paper and similar fibrous or hygroscopic material shall not be used as insulation, unless impregnated.	✓	PASS
22.22	Appliances shall not contain asbestos.	✓	PASS
22.23	Oils containing polychlorinated biphenyl (PCB) shall not be used in appliances.	✓	PASS
22.24	Bare heating elements shall be supported so that the heating conductor is unlikely to come into contact with **accessible metal parts** if they rupture.	✓	PASS
22.25	Appliances, other than those of **class III**, shall be constructed so that sagging heating conductors cannot come into contact with **accessible metal parts**.	✓	PASS
22.26	Appliances having parts of **class III construction** shall be constructed so that the insulation between parts operating at **safety extra-low voltage** and other **live parts** complies with the requirements for **double insulation** or **reinforced insulation**.	✓	PASS
22.27	Parts connected by **protective impedance** shall be separated by **double insulation** or **reinforced insulation**.	✓	PASS
22.28	For **class II appliances** connected in normal use to the gas mains or to the water mains, metal parts conductively connected to the gas pipes or in contact with the water shall be separated from **live parts** by **double insulation** or **reinforced insulation**.	*Not connected to the gas mains or to water mains*	N
22.29	**Class II appliances** intended to be permanently connected to fixed wiring shall be constructed so that the required degree of access to **live parts** is maintained after installation.	*Not a class II appliance*	N
22.30	Parts of **class II construction** which serve as **supplementary insulation** or **reinforced insulation**, and which could be omitted during reassembly after servicing, shall be – fixed so that they cannot be removed without being seriously damaged, or – constructed so that they cannot be replaced in an incorrect position and if they are omitted, the appliance is rendered inoperable or manifestly incomplete.	*Not a class II appliance*	N
22.31	**Clearances** and **creepage distances** over **supplementary insulation** and **reinforced insulation** shall not be reduced below the values specified in clause 29 as a result of wear. If a part, such as a wire, screw, nut or spring, becomes loose or falls out of position, **clearances** and **creepage distances** between **live parts** and **accessible parts** shall not be reduced below the values specified for **supplementary insulation.**	✓	PASS
22.32	**Supplementary insulation** and **reinforced insulation** shall be constructed or protected so that the deposition of pollution resulting from wear of parts within the appliance does not reduce **clearances** or **creepage distances** below the values specified in clause 29. Parts of natural or synthetic rubber used as **supplementary insulation** shall be resistant to ageing or be located and dimensioned so that **creepage distances** are not reduced below the values specified in 29.2, even if cracks occur. Ceramic material which is not tightly sintered, similar materials or beads alone shall not be used as **supplementary insulation** or **reinforced insulation**.	✓	PASS

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Clause	Requirement	Result Remark	Verdict
22.33	Conductive liquids that are or may become accessible in normal use shall not be in direct contact with **live parts**. Electrodes shall not be used for heating liquids. For **class II construction**, conductive liquids that are or may become accessible in normal use shall not be in direct contact with **basic insulation** or **reinforced insulation**. For **class II construction**, conductive liquids which are in contact with **live parts** shall not be in direct contact with **reinforced insulation**.	✓	**PASS**
22.34	Shafts of operating knobs, handles, levers and similar parts shall not be live unless the shaft is inaccessible when the part is removed.	✓	**PASS**
22.35	For constructions other than those of **class III**, handles, levers and knobs which are held or actuated in normal use shall not become live in the event of an insulation fault. If these handles, levers or knobs are of metal and if their shafts or fixings are likely to become live in the event of an insulation fault, they shall be adequately covered by insulating material or their **accessible parts** shall be separated from their shafts or fixings by **supplementary insulation.**	✓	**PASS**
22.36	For appliances other than those of **class III**, handles which are continuously held in the hand in normal use shall be constructed so that when gripped in normal use, the operator's hand is not likely to touch metal parts unless thay are separated from **live parts** by **double insulation** or **reinforced insulation**.	✓	**PASS**
22.37	For **class II appliances**, capacitors shall not be connected to **accessible metal parts** and their casings, if of metal, shall be separated from **accessible metal parts** by **supplementary insulation**. This requirement does not apply to capacitors complying with the requirements for **protective impedance** specified in 22.42.	*Not class II appliance*	**N**
22.38	Capacitors shall not be connected between the contacts of a **thermal cut-out.**	*Not have capacitors*	**N**
22.39	Lampholders shall be used only for the connection of lamps.	✓	**PASS**
22.40	**Motor-operated appliances** and **combined appliances** which are intended to be moved while in operation, or which have **accessible moving parts**, shall be fitted with a switch to control the motor. The actuating member of this switch shall be easily visible and accessible.	✓	**PASS**
22.41	Appliances shall not incorporate components, other than lamps, containing mercury.	✓	**PASS**
22.42	**Protective impedance** shall consist of at least two separate components whose impedance is unlikely to change significantly during the lifetime of the appliance. If any one of the components is short-circuited or open-circuited the values specified in 8.1.4 shall not be exceeded.	*Not have protective impedance*	**N**
22.43	Appliances which can be adjusted for different voltages shall be constructed so that accidental changing of the setting is unlikely to occur.	*Can not be adjusted for different voltages*	**N**
22.44	Appliances shall not have an enclosure that is shaped and decorated so that the appliance is likely to be treated as a toy by children.	✓	**PASS**
22.45	When air is used as **reinforced insulation**, the appliance shall be constructed so that **clearances** cannot be reduced below the values specified in 29.1.3 due to deformation as a result of an external force applied to the enclosure.	✓	**PASS**

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Clause	Requirement	Result Remark	Verdict
22.46	Software used in **protective electronic circuits** shall be **software class B** or **software class C**.	*Not have protective electronic circuits*	N
22.47	Appliances intended to be connected to the water mains shall withstand the water pressure expected in normal use.	*Not connected to water mains*	N
22.48	Appliances intended to be connected to the water mains shall be constructed to prevent backsiphonage of non-potable water into the water mains.	✓	PASS
22.101	**Thermal cut-outs** protecting circuits with heating elements and those for motors of which the unexpected starting may cause a hazard shall be of the **non-self-resetting** trip-free type and shall provide **all-pole disconnection** from the supply. If the **non-self-resetting thermal cut-out** is only accessible after removing parts with the aid of a **tool**, the trip-free type is not required.	✓	PASS
22.102	Lights, switches or push-buttons shall only be coloured red for the indication of danger, alarm or similar situations.	✓	PASS
22.103	Appliances fitted with wheels or similar means shall be provided with an efficient means of locking while the appliance is stationary.	✓	PASS
22.104	**Portable appliances** shall not have openings on the underside that would allow small items to penetrate and touch **live parts**.	✓	PASS
23.	**Internal wiring**		
23.1	Wireways shall be smooth and free from sharp edges. Wires shall be protected so that they do not come into contact with burrs, cooling fins or similar edges which may cause damage to their insulation. Holes in metal through which insulated wires pass shall have smooth well-rounded surfaces or be provided with bushings. Wiring shall be effectively prevented from coming into contact with moving parts.	✓	PASS
23.2	Beads and similar ceramic insulators on live wires shall be fixed or located so that they cannot change their position or rest on sharp edges. If beads are inside flexible metal conduits, they shall be contained within an insulating sleeve, unless the conduit cannot move in normal use.	✓	PASS
23.3	Different parts of an appliance that can move relative to each other in normal use or during **user maintenance** shall not cause undue stress to electrical connections and internal conductors, including those providing earthing continuity. Flexible metallic tubes shall not cause damage to the insulation of the conductors contained within them. Open-coil springs shall not be used to protect the wiring. If a coiled spring, the turns of which touch one another, is used for this purpose, there shall be an adequate insulating lining in addition to the insulation of the conductors. When the capillary tube of the **thermostat** is liable to flexing in normal use, the following applies: – where the capillary tube is fitted as part of the internal wiring, Part 1 applies; – where the capillary tube is separate, it shall be subjected to 1 000 flexings at a rate not exceeding 30 per minute.	✓	PASS
23.4	Bare internal wiring shall be rigid and fixed so that, in normal use, **clearances** or **creepage distances** cannot be reduced below the values specified in clause 29.	✓	PASS

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Clause	Requirement	Result Remark	Verdict
23.5	The insulation of internal wiring shall withstand the electrical stress likely to occur in normal use.	✓	PASS
23.6	When sleeving is used as **supplementary insulation** on internal wiring, it shall be retained in position by positive means.	✓	PASS
23.7	Conductors identified by the colour combination green/yellow shall only be used for earthing conductors.	✓	PASS
23.8	Aluminium wires shall not be used for internal wiring.	✓	PASS
23.9	Stranded conductors shall not be consolidated by lead-tin soldering where they are subjected to contact pressure, unless the clamping means is constructed so that there is no risk of bad contact due to cold flow of the solder.	✓	PASS
23.10	The insulation and sheath of internal wiring, incorporated in external hoses for the connection of an appliance to the water mains, shall be at least equivalent to that of light polyvinyl chloride sheathed flexible cord (code designation 60227 IEC 52).	*Not connected to the water mains*	N
24			
24.1	Components shall comply with the safety requirements specified in the relevant IEC standards as far as they reasonably apply.	✓	PASS
24.1.1	The relevant standard for capacitors likely to be permanently subjected to the supply voltage and used for radio interference suppression or for voltage dividing is IEC 60384-14. If they have to be tested, they are tested in accordance with annex F.	*Not have capacitors*	N
24.1.2	The relevant standard for **safety isolating transformers** is IEC 61558-2-6. If they have to be tested, they are tested in accordance with annex G.	✓	PASS
24.1.3	The relevant standard for switches is IEC 61058-1. The number of cycles of operation declared for 7.1.4 of IEC 61058-1 shall be at least 10 000. If they have to be tested, they are tested in accordance with annex H.	✓	PASS
24.1.4	The relevant standard for automatic controls is IEC 60730-1 together with its relevant part 2.	✓	PASS
24.1.5	The relevant standard for appliance couplers is IEC 60320-1. However, for appliances classified higher than IPX0, the relevant standard is IEC 60320-2-3. The relevant standard for interconnection couplers is IEC 60320-2-2.	✓	PASS
24.1.6	The relevant standard for small lampholders similar to E10 lampholders is IEC 60238, the requirements for E10 lampholders being appplicable. However, they need not accept a lamp with an E10 cap complying with the current edition of Standard Sheet 7004-22 of IEC 60061-1.	✓	PASS
24.2	Appliances shall not be fitted with – switches or automatic controls in flexible cords; – devices that cause the **protective device** in the fixed wiring to operate in the event of a fault in the appliance; – **thermal cut-outs** that can be reset by a soldering operation.	✓	PASS
24.3	Switches intended to ensure **all-pole disconnection** of **stationary appliances**, as required in 22.2, shall be directly connected to the supply terminals and shall have a contact separation in all poles, providing full disconnection under overvoltage category III conditions.	✓	PASS

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Clause	Requirement	Result Remark	Verdict
24.4	Plugs and socket-outlets for **extra-low voltage** circuits, and those used as terminal devices for heating elements, shall not be interchangeable with plugs and socket-outlets listed in IEC 60083 or IEC 60906-1 or with connectors and appliance inlets complying with the standard sheets of IEC 60320-1.	✔	**PASS**
24.5	Capacitors in auxiliary windings of motors shall be marked with their rated voltage and their rated capacitance and shall be used in accordance with these markings.	✔	**PASS**
24.6	The **working voltage** of motors directly connected to the supply mains and having **basic insulation** that is inadequate for the **rated voltage** of the appliance, shall not exceed 42 V. In addition, they shall comply with the requirements of annex I.	✔	**PASS**
24.7	Hose-sets for the connection of appliances to the water mains shall comply with IEC 61770. They shall be supplied with the appliance	*Not connected to the water mains*	**N**
24.101	Connectors fitted to appliances shall not incorporate a **thermostat**.	✔	**PASS**
25.	**Supply connection and external flexible cords**		
25.1	Appliances, other than those intended to be permanently connected to fixed wiring, shall be provided with one of the following means for connection to the supply mains: – **supply cord** fitted with a plug; – an appliance inlet having at least the same degree of protection against moisture as required for the appliance; – pins for insertion into socket-outlets.	✔	**PASS**
25.2	Appliances, other than **stationary appliances** for multiple supply, shall not be provided with more than one means of connection to the supply mains. **Stationary appliances** for multiple supply may be provided with more than one means of connection provided that the relevant circuits are adequately insulated from each other.	✔	**PASS**
25.3	Appliances intended to be permanently connected to fixed wiring shall allow the connection of the supply conductors after the appliance has been fixed to its support and shall be provided with one of the following means for connection to the supply mains: – a set of terminals allowing the connection of cables of fixed wiring having the nominal cross-sectional areas specified in 26.6; – a set of terminals allowing the connection of a flexible cord; – a set of **supply leads** accommodated in a suitable compartment; – a set of terminals and cable entries, conduit entries, knock-outs or glands, which allow the connection of the appropriate types of cable or conduit. **Fixed appliances** and appliances with a mass greater than 40 kg and not provided with rollers, castors or similar means shall be constructed so that the **supply cord** can be connected after the appliance has been installed in accordance with the manufacturer's instructions.	✔	**PASS**

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Clause	Requirement	Result Remark	Verdict
25.4	For appliances intended to be permanently connected to the fixed wiring and having a **rated current** not exceeding 16 A, cable and conduit entries shall be suitable for cables or conduits having a maximum overall dimension shown in table 10. Conduit entries, cable entries and knock-outs shall be constructed or located so that the introduction of the conduit or cable does not reduce **clearances** or **creepage distances** below the values specified in clause 29.	✔	**PASS**
25.5	**Supply cords** shall be assembled to the appliance by one of the following methods: – **type X attachment**; – **type Y attachment**; – **type Z attachment**, if allowed in the relevant part 2. **Type X attachments**, other than those having a specially prepared cord, shall not be used for flat twin tinsel cords.	✔	**PASS**
25.6	Plugs shall not be fitted with more than one flexible cord.	✔	**PASS**
25.7	**Supply cords** shall be oil-resistant, sheathed flexible cable not lighter than ordinary polychloroprene or other equivalent synthetic elastomer-sheathed cord (code designation 60245 IEC 57).	✔	**PASS**
25.8	Conductors of **supply cords** shall have a nominal cross-sectional area not less than that shown in table 11.	✔	**PASS**
25.9	**Supply cords** shall not be in contact with sharp points or edges of the appliance.	✔	**PASS**
25.10	The **supply cord** of **class I appliances** shall have a green/yellow core that is connected to the earthing terminal of the appliance and to the earthing contact of the plug.	✔	**PASS**
25.11	Conductors of **supply cords** shall not be consolidated by lead-tin soldering where they are subjected to contact pressure, unless the clamping means is constructed so that there is no risk of a bad contact due to cold flow of the solder.	✔	**PASS**
25.12	The insulation of the **supply cords** shall not be damaged when moulding the cord to part of the enclosure.	✔	**PASS**
25.13	Inlet openings for **supply cords** shall be constructed so that the sheath of the **supply cord** can be introduced without risk of damage. Unless the enclosure at the inlet opening is insulating material, a **non-detachable lining** or **non-detachable bushing** shall be provided that complies with 29.3 for **supplementary insulation**. If the **supply cord** is unsheathed, a similar additional bushing or lining is required, unless the appliance is **class 0**.	✔	**PASS**
25.14	Appliances provided with a **supply cord** that are moved while in operation shall be constructed so that the **supply cord** is adequately protected against excessive flexing where it enters the appliance.	✔	**PASS**

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Clause	Requirement	Result Remark	Verdict
25.15	Appliances provided with a **supply cord**, and appliances intended to be permanently connected to fixed wiring by a flexible cord, shall have a cord anchorage. The cord anchorage shall relieve conductors from strain, including twisting, at the terminals and protect the insulation of the conductors from abrasion. It shall not be possible to push the cord into the appliance to such an extent that the cord or internal parts of the appliance could be damaged.	✔	**PASS**
25.16	Cord anchorages for **type X attachments** shall be constructed and located so that – replacement of the cord is easily possible; – it is clear how the relief from strain and the prevention of twisting are obtained; – they are suitable for the different types of **supply cord** that may be connected, unless the cord is specially prepared; – the cord cannot touch the clamping screws of the cord anchorage if these screws are accessible, unless they are separated from **accessible metal parts** by **supplementary insulation**; – the cord is not clamped by a metal screw which bears directly on the cord; – at least one part of the cord anchorage is securely fixed to the appliance, unless it is part of a specially prepared cord; – screws which have to be operated when replacing the cord do not fix any other component. However, this does not apply if • after removal of the screws, or if the component is incorrectly repositioned, the appliance becomes inoperative or is obviously incomplete; • the parts intended to be fastened by them cannot be removed without the aid of a **tool** during the replacement of the cord; – if labyrinths can be bypassed the test of 25.15 is nevertheless withstood; – for **class 0 appliances**, **class 0I appliances** and **class I appliances**, they are of insulating material or are provided with an insulating lining, unless failure of the insulation of the cord does not make **accessible metal parts** live; – for **class II appliances**, they are of insulating material or, if of metal, they are insulated from **accessible metal parts** by **supplementary insulation**.	✔	**PASS**
25.17	For **type Y attachment** and **type Z attachment**, cord anchorages shall be adequate.	✔	**PASS**
25.18	Cord anchorages shall be arranged so that they are only accessible with the aid of a **tool** or shall be constructed so that the cord can only be fitted with the aid of a **tool**.	✔	**PASS**
25.19	For **type X attachment**, glands shall not be used as cord anchorages in **portable appliances**. Tying the cord into a knot or tying the cord with string is not allowed.	***Not have type X attachment***	**N**
25.20	The insulated conductors of the **supply cord** for **type Y attachment** and **type Z attachment** shall be additionally insulated from **accessible metal parts** by **basic insulation** for **class 0 appliances**, **class 0I appliances** and **class I appliances,** and by **supplementary insulation** for **class II appliances**. This insulation may be provided by the sheath of the **supply cord** or by other means.	✔	**PASS**

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Clause	Requirement	Result Remark	Verdict
25.21	The space for the connection of **supply cords** having **type X attachment**, or for the connection of fixed wiring, shall be constructed – so that it is possible to check that the supply conductors are correctly positioned and connected before fitting any cover; – so that any cover can be fitted without risk of damage to the conductors or their insulation; – for **portable appliances**, so that the uninsulated end of a conductor, should it become free from the terminal, cannot come into contact with **accessible metal parts**.	*Not have type X attachment*	N
25.22	Appliance inlets shall – be located or enclosed so that **live parts** are not accessible during insertion or removal of the connector; – be located so that the connector can be inserted without difficulty; – be located so that, after insertion of the connector, the appliance is not supported by the connector when it is placed in any position of normal use on a flat surface; – not be an appliance inlet for cold conditions if the temperature rise of external metal parts of the appliance exceeds 75 K during the test of clause 11, unless the **supply cord** is unlikely to touch such metal parts in normal use.	✓	PASS
25.23	**Interconnection cords** shall comply with the requirements for the **supply cord**, except that – the cross-sectional area of the conductors of the **interconnection cord** is determined on the basis of the maximum current carried by the conductor during the test of clause 11 and not by the **rated current** of the appliance; – the thickness of the insulation of the conductor may be reduced if the voltage of the conductor is less than the **rated voltage**.	✓	PASS
25.24	**Interconnection cords** shall not be detachable without the aid of a **tool** if compliance with this standard is impaired when they are disconnected.	✓	PASS
25.25	The dimensions of pins of appliances that are inserted into socket-outlets shall be compatible with the dimensions of the relevant socket-outlet. Dimensions of the pins and engagement face are to be in accordance with the dimensions of the relevant plug listed in IEC 60083.	✓	PASS
26.	**Terminals for external conductors**		
26.1	Appliances shall be provided with terminals or equally effective devices for the connection of external conductors. The terminals shall only be accessible after the removal of a **non- detachable cover**. However, earthing terminals may be accessible if a **tool** is required to make the connections and means are provided to clamp the wire independently from its connection.	✓	PASS

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Clause	Requirement	Result Remark	Verdict
26.2	Appliances having **type X attachment**, except those having a specially prepared cord, and appliances for connection to fixed wiring shall be provided with terminals in which the connections are made by means of screws, nuts or similar devices, unless the connections are soldered. The screws and nuts shall not be used to fix any other component except that they may also clamp internal conductors if these are arranged so that they are unlikely to be displaced when fitting the supply conductors. If soldered connections are used, the conductor shall be positioned or fixed so that reliance is not placed upon the soldering alone to maintain it in position. However, soldering alone may be used if barriers are provided so that **clearances** and **creepage distances** between **live parts** and other metal parts cannot be reduced below the values specified for **supplementary insulation** if the conductor becomes free at the soldered joint.	***Not have type X attachment***	**N**
26.3	Terminals for **type X attachment** and those for connection to fixed wiring shall be constructed so that they clamp the conductor between metal surfaces with sufficient contact pressure but without causing damage to the conductor. The terminals shall be fixed so that when the clamping means is tightened or loosened – the terminal does not become loose; – internal wiring is not subjected to stress; – **clearances** and **creepage distances** are not reduced below the values specified in clause 29.	***Not have type X attachment***	**N**
26.4	Terminals for **type X attachment**, except **type X attachments** having a specially prepared cord, and terminals for connection to fixed wiring, shall not require special preparation of the conductor. They shall be constructed or placed so that the conductor cannot slip out when clamping screws or nuts are tightened.	***Not have type X attachment***	**N**
26.5	Terminals for **type X attachment** shall be located or shielded so that if a wire of astranded conductor escapes when the conductors are fitted, there is no risk of accidental connection to other parts that could result in a hazard.	***Not have type X attachment***	**N**
26.6	Terminals for **type X attachment** and for connection to fixed wiring shall allow the connection of conductors having the nominal cross-sectional areas shown in table 13. However, if a specially prepared cord is used, the terminals need only be suitable for the connection of that cord.	***Not have type X attachment***	**N**
26.7	Terminals for **type X attachment** shall be accessible after removal of a cover or part of the enclosure.	***Not have type X attachment***	**N**
26.8	Terminals for the connection of fixed wiring, including the earthing terminal, shall be located close to each other.	✓	**PASS**
26.9	Terminals of the pillar type shall be constructed and located so that the end of a conductor introduced into the hole is visible, or can pass beyond the threaded hole for a distance equal to half the nominal diameter of the screw but at least 2,5 mm.	✓	**PASS**
26.10	Terminals with screw clamping and screwless terminals shall not be used for the connection of the conductors of flat twin tinsel cords unless the ends of the conductors are fitted with means suitable for use with screw terminals.	✓	**PASS**

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Clause	Requirement	Result Remark	Verdict
26.11	For appliances having **type Y attachment** or **type Z attachment**, soldered, welded, crimped or similar connections may be used for the connection of external conductors. For **class II appliances**, the conductor shall be positioned or fixed so that reliance is not placed upon the soldering, crimping or welding alone to maintain the conductor in position. However, these methods may be used alone if barriers are provided so that **clearances** and **creepage distances** between **live parts** and other metal parts cannot be reduced below the values specified for **supplementary insulation**, if the conductor becomes free at the soldered or welded joint or slips out of the crimped connection.	✓	**PASS**
27.	**Provision for earthing**		
27.1	**Accessible metal parts** of **class 01 appliances** and **class I appliances** that may become live in the event of an insulation fault, shall be permanently and reliably connected to an earthing terminal within the appliance or to the earthing contact of the appliance inlet. Earthing terminals and earthing contacts shall not be connected to the neutral terminal. **Class 0 appliances**, **class II appliances** and **class III appliances** shall have no provision for earthing. **Safety extra-low voltage** circuits shall not be earthed unless they are **protective extra-low voltage circuits**.	✓	**PASS**
27.2	The clamping means of earthing terminals shall be adequately secured against accidental loosening. Terminals for the connection of external equipotential bonding conductors shall allow the connection of conductors having nominal cross-sectional areas of 2,5 mm^2 to 6 mm^2 and shall not be used to provide earthing continuity between different parts of the appliance. It shall not be possible to loosen the conductors without the aid of a **tool**. **Stationary appliances** shall be provided with a terminal for the connection of an external equipotential conductor. This terminal shall be in effective electrical contact with all fixed exposed metal parts of the appliance, and shall allow the connection of a conductor having a nominal cross-sectional area of up to 10 mm2. It shall be located in a position convenient for the connection of the bonding conductor after installation of the appliance.	✓	**PASS**
27.3	If a **detachable part** having an earth connection is plugged into another part of the appliance, the earth connection shall be made before the current-carrying connections are established. The current-carrying connections shall be separated before the earth connection when removing the part. For appliances with **supply cords**, the arrangement of the terminals, or the length of the conductors between the cord anchorage and the terminals, shall be such that the currentcarrying conductors become taut before the earthing conductor if the cord slips out of the cord anchorage.	✓	**PASS**

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Clause	Requirement	Result Remark	Verdict
27.4	All parts of the earthing terminal intended for the connection of external conductors shall be such that there is no risk of corrosion resulting from contact between these parts and the copper of the earthing conductor or any other metal in contact with these parts. Parts providing earthing continuity, other than parts of a metal frame or enclosure, shall be of metal having adequate resistance to corrosion. If these parts are of steel, they shall be provided at the essential areas with an electroplated coating having a thickness of at least 5 □m. Parts of coated or uncoated steel that are only intended to provide or to transmit contact pressure shall be adequately protected against rusting. If the body of the earthing terminal is a part of a frame or enclosure of aluminium or aluminium alloy, precautions shall be taken to avoid the risk of corrosion resulting from contact between copper and aluminium or its alloys.	✓	**PASS**
27.5	The connection between the earthing terminal or earthing contact and earthed metal parts shall have low resistance. If the **clearances** of **basic insulation** in a **protective extra-low voltage circuit** are based on the **rated voltage** of the appliance, this requirement does not apply to connections providing earthing continuity in the **protective extra-low voltage circuit**.	✓	**PASS**
27.6	The printed conductors of printed circuit boards shall not be used to provide earthing continuity in **hand-held appliances**. They may be used to provide earthing continuity in other appliances if – at least two tracks are used with independent soldering points and the appliance complies with 27.5 for each circuit, – the material of the printed circuit board complies with IEC 60249-2-4 or IEC 60249-2-5.	*Not have printed circuits*	**N**
28.			
28.1	Fixings, the failure of which may impair compliance with this standard, electrical connections and connections providing earthing continuity shall withstand the mechanical stresses occurring in normal use. Screws used for these purposes shall not be of metal which is soft or liable to creep, such as zinc or aluminium. If they are of insulating material, they shall have a nominal diameter of at least 3 mm and they shall not be used for any electrical connections or connections providing earthing continuity. Screws used for electrical connections or for connections providing earthing continuity shall screw into metal. Screws shall not be of insulating material if their replacement by a metal screw could impair **supplementary insulation** or **reinforced insulation**. Screws that may be removed when replacing a **supply cord** having a **type X attachment** or when undertaking **user maintenance** shall not be of insulating material if their replacement by a metal screw could impair **basic insulation**.	✓	**PASS**

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Clause	Requirement	Result Remark	Verdict
28.2	Electrical connections and connections providing earthing continuity shall be constructed so that contact pressure is not transmitted through insulating material that is liable to shrink or to distort unless there is sufficient resiliency in the metallic parts to compensate for any possible shrinkage or distortion of the insulating material. This requirement does not apply to electrical connections in circuits carrying a current not exceeding 0,5 A.	✓	**PASS**
28.3	Space-threaded (sheet metal) screws shall only be used for electrical connections if they clamp the parts together. Thread-cutting (self-tapping) screws shall only be used for electrical connections if they generate a full form standard machine screw thread. Such screws shall not be used if they are likely to be operated by the user or installer unless the thread is formed by a swaging action. Thread-cutting and space-threaded screws may be used in connections providing earthing continuity provided it is unnecessary to disturb the connection in normal use and at least two screws are used for each connection.	✓	**PASS**
28.4	Screws and nuts that make a mechanical connection between different parts of the appliance shall be secured against loosening if they also make electrical connections or connections providing earthing continuity. Rivets used for electrical connections or for connections providing earthing continuity shall be secured against loosening if these connections are subject to torsion in normal use.	✓	**PASS**
29.			
	Appliances shall be constructed so that the **clearances**, **creepage distances** and solid insulation are adequate to withstand the electrical stresses to which the appliance is liable to be subjected.	✓	**PASS**
29.1	**Clearances** shall not be less than the values specified in Table 16, taking into account the **rated impulse voltage** for the overvoltage categories of Table 15, unless, for **basic insulation** and **functional insulation**, they comply with the impulse voltage test of Clause 14. However, if the construction is such that the distances could be affected by wear, by distortion, by movement of the parts or during assembly, the **clearances** for **rated impulse voltages** of 1 500 V and above are increased by 0,5 mm and the impulse voltage test is not applicable. The impulse voltage test is not applicable when the microenvironment is pollution degree 3 or for **basic insulation** of **class 0 appliances** and **class 0I appliances**.	✓	**PASS**
29.1.1	The **clearances** of **basic insulation** shall be sufficient to withstand the overvoltages likely to occur during use, taking into account the **rated impulse voltage**. The values of table 16 are applicable. The **clearance** at the terminals of tubular sheathed heating elements may be reduced to 1,0 mm if the microenvironment is pollution degree 1. Lacquered conductors of windings are considered to be bare conductors.	✓	**PASS**
29.1.2	**Clearances** of **supplementary insulation** shall be not less than those specified for **basic insulation** in table 16.	✓	**PASS**

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Clause	Requirement	Result Remark	Verdict
29.1.3	**Clearances** of **reinforced insulation** shall be not less than those specified for **basic insulation** in table 16, but using the next higher step for **rated impulse voltage** as a reference.	✓	**PASS**
29.1.4	For **functional insulation**, the values of table 16 are applicable. However, **clearances** are not specified if the appliance complies with clause 19 with the **functional insulation** short-circuited. Lacquered conductors of windings are considered to be bare conductors. However, **clearances** at crossover points are not measured. The **clearance** between surfaces of **PTC heating elements** may be reduced to 1 mm.	✓	**PASS**
29.1.5	For appliances having higher **working voltages** than **rated voltage**, for example on the secondary side of a step-up transformer, or if there is a resonant voltage, the voltage used for determining **clearances** from table 16 shall be the sum of the **rated impulse voltage** and the difference between the peak value of the **working voltage** and the peak value of the **rated voltage**. If the secondary winding of a step-down transformer is earthed, or if there is an earthed screen between the primary and secondary windings, **clearances** of **basic insulation** on the secondary side shall be not less than those specified in table 16, but using the next lower step for **rated impulse voltage** as a reference. For circuits supplied with a voltage lower than **rated voltage**, for example on the secondary side of a transformer, **clearances** of **functional insulation** are based on the **working voltage**, which is used as the **rated voltage** in table 15.	*Not applicable*	**N**
29.2	Appliances shall be constructed so that **creepage distances** are not less than those appropriate for the **working voltage**, taking into account the material group and the pollution degree. Pollution degree 2 applies unless – precautions have been taken to protect the insulation, in which case pollution degree 1 applies; – the insulation is subjected to conductive pollution, in which case pollution degree 3 applies. The microenvironment is pollution degree 3 and the insulation shall have a comparative tracking index (CTI) not less than 250, unless the insulation is enclosed or located so that it is unlikely to be exposed to pollution during normal use of the appliance.	✓	**PASS**
29.2.1	**Creepage distances** of **basic insulation** shall not be less than those specified in table 17. Except for pollution degree 1, if the test of clause 14 has been used to check a particular **clearance**, the corresponding **creepage distance** shall not be less than the minimum dimension specified for the **clearance** of table 16.	✓	**PASS**
29.2.2	**Creepage distances** of **supplementary insulation** shall be at least those specified for **basic insulation** in table 17.	✓	**PASS**
29.2.3	**Creepage distances** of **reinforced insulation** shall be at least double those specified for **basic insulation** in table 17.	✓	**PASS**

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Clause	Requirement	Result Remark	Verdict
29.2.4	**Creepage distances** of **functional insulation** shall be not less than those specified in table 18. However, **creepage distances** may be reduced if the appliance complies with clause 19 with the **functional insulation** short-circuited.	✓	**PASS**
29.3	**Supplementary insulation** and **reinforced insulation** shall have adequate thickness, or have a sufficient number of layers, to withstand the electrical stresses that can be expected during the use of the appliance.	✓	**PASS**
29.3.1	*The thickness of the insulation shall be at least* *– 1 mm for **supplementary insulation**;* *– 2 mm for **reinforced insulation**.*	✓	**PASS**
29.3.2	*Each layer of material shall withstand the electric strength test of 16.3 for **supplementary insulation**. **Supplementary insulation** shall consist of at least 2 layers of material and **reinforced insulation** of at least 3 layers.*	✓	**PASS**
29.3.3	The insulation is subjected to the dry heat test Bb of IEC 60068-2-2 for 48 h at a temperature of 50 K in excess of the maximum temperature rise measured during the test of Clause 19. At the end of the period, the insulation is subjected to the electric strength test of 16.3 at the conditioning temperature and also after it has cooled down to room temperature. If the temperature rise of the insulation measured during the tests of Clause 19 does notexceed the value specified in Table 3, the test of IEC 60068-2-2 is not carried out.	✓	**PASS**
30.	**Resistance to heat and fire**		
30.1	External parts of non-metallic material, parts of insulating material supporting **live parts** including connections, and parts of thermoplastic material providing **supplementary insulation** or **reinforced insulation,** shall be sufficiently resistant to heat if their deterioration could cause the appliance to fail to comply with this standard. This requirement does not apply to the insulation or sheath of flexible cords or internal wiring.	✓	**PASS**
30.2	Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames that originate inside the appliance.	✓	**PASS**
30.2.1	Parts of non-metallic material are subjected to the glow-wire test of IEC 60695-2-11, which is carried out at 650 °C.	✓	**PASS**
30.2.2	For appliances that are operated while attended, parts of insulating material supporting current-carrying connections, and parts of insulating material within a distance of 3 mm of such connections, are subjected to the glow-wire test of IEC 60695-2-11 that is carried out at – 750 °C, for connections that carry a current exceeding 0,5 A during **normal operation**, – 650 °C, for other connections.	***Not applicable.***	**N**
30.2.3	Appliances that are operated while unattended are tested as specified in 30.2.3.1 and 30.2.3.*2*	✓	**PASS**
30.2.3.1	Parts of insulating material supporting connections that carry a current exceeding 0,2 A during **normal operation**, and parts of insulating material within a distance of 3 mm of such connections, shall have a glow-wire flammability index of at least 850 °C according to IEC 60695-2-12, the test sample being no thicker than the relevant part.	✓	**PASS**

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Clause	Requirement	Result Remark	Verdict
30.2.3.2	Parts of insulating material supporting current-carrying connections, and parts of insulating material within a distance of 3 mm of such connections, are subjected to the glowwire test of IEC 60695-2-11. However, the glow-wire test is not carried out on parts of material classified as having a glow-wire ignition temperature according to IEC 60695-2-13 of at least – 775 °C, for connections which carry a current exceeding 0,2 A during **normal operation**; – 675 °C, for other connections, provided that the test sample was no thicker than the relevant part.	✓	**PASS**
30.2.4	The base material of printed circuit boards is subjected to the needle-flame test of annex E. The flame is applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use.	***Not have printed circuits***	**N**
31.	**Resistance to rusting**		
	Ferrous parts, the rusting of which might cause the appliance to fail to comply with this standard, shall be adequately protected against rusting.	✓	**PASS**
32.	**Radiation, toxicity and similar hazards**		
	Appliances shall not emit harmful radiation or present a toxic or similar hazard.	✓	**PASS**

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10.1	TABLE: Power input deviation				P
Input deviation of/at:	P rated (W)	P measured (W)	dP	Required dP	Remark
230V 50Hz	1500	1448	PASS0.05%	PASS20%	P
Supplementary information: Rated voltage: AC230V, 50Hz, 1700					

11.8	TABLE: Heating test, thermocouples		P
	Test voltage (V)	243,8V, 50 Hz	
	Ambient (oC)	24.5	
Thermocouple locations	dT (K)	Max. dT (K)	
Varistor	30.3	60(T-25)	
Opto-coupler	19.4	75(T-25)	
Internal wire	29.9	50	
Enclosure(inside)	28.0	For 30.1	
Enclosure(outside)	18.9	60	
Test corner	3.1	65	
Supplementary information: Appliance was tested until steady conditions established.			

13.2	TABLE: Leakage current		P
	Heating appliances: 1.15 x rated input	---	
	Motor-operated and combined appliances: 1.06xratedvoltage	243.8V	
Leakage current between		I (mA)	Max. allowed I (mA)
L/N and Output terminal		0,10	1,125
L/N and Enclosure		0,12	1.125

13.3	TABLE: Electric strength		P
L/N and Output terminal		Voltage (V)	Breakdown (Yes/No)
L/N and Enclosure Pri-winding and Output terminal		1000	No
L/N and Enclosure		1000	No
Pri-winding and Enclosure		1000	No

24.1	TABLE: Components (see CDF)				P
Object / part No	Manufacturer/trademark	Type / model	Technical data	Standard	Mark(s) of conformity
1) An asterisk indicates a mark which assures the agreed level of surveillance					

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