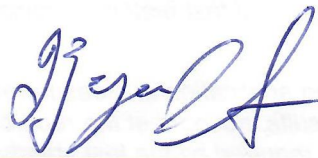



SAFETY TEST REPORT EN 60335-1 Household and similar electrical appliances – Safety – Part 1: General requirements	
Report Number..... :	TR-230524.01
Date of issue..... :	2024-05-23
Total number of pages..... :	93
Test specification	
Test procedure..... :	LVD
Non-standard test method..... :	N/A
Standard..... :	EN IEC 60335-1:2023+A11:2023
Applicant's name..... :	GRIGORII GRABOVI PR KONSALTING TECHNOLOGIES OF ETERNAL DEVELOPMENT BEOGRAD
Address..... :	Kneza Mihaila 21A, lok. 113, Belgrade, Serbia
Test item description..... :	The device of development of concentrations of eternal life PRK-1UM is of three-modes
Trademark(s)..... :	N/A
Manufacturer..... :	GRIGORII GRABOVI PR KONSALTING TECHNOLOGIES OF ETERNAL DEVELOPMENT BEOGRAD
Model/Type reference..... :	PRK-1UM
Ratings..... :	5Vdc 0,4A
Testing Laboratory..... :	AN LAB CO Ltd. Belgrade
Testing location/address..... :	Trgovacka 79, 11030 Belgrade, Serbia
Tested by : (name, function, signature)	Dragoslav Đorović 
Verified by : (name, function, signature)	Nikoleta Đorović 
General disclaimer: The test results presented in this report relate only to the sample tested. This report shall not be reproduced, except in full, without the written approval of the Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the Laboratory.	
Note: This test report replaces test report no. TR-230524.01 issued on 2024-03-26. The description in the Test item description field has been corrected. This is the withdrawal of report no. TR-230524.01 issued on 2024-03-26.	



List of Attachments (including a total number of pages in each attachment):

N/A

Summary of testing:

Test sample passed all performed tests

Tests performed (name of test and test clause):

1. Current deviation, clause 10.2,
2. Heating test, clause 11.8,
3. Abnormal conditions, clause 19,
4. Abnormal conditions, temperature rise, clause 19.3,
5. Impact resistance, clause 21.1,
6. Threaded part torque test, clause 28.1,
7. Clearance distance, functional insulation, clause 29.1 and
8. Creepage distances, functional insulation, clause 29.2.

Summary of compliance with National Differences

Compliance with National Differences evaluated Yes No N/A

Countries with published National Differences which were evaluated:

N/A

(See Attachment to this test report with evaluation of compliance with National Differences)

Use of uncertainty of measurement for decisions on conformity (decision rule):

No decision rule is specified by the standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").

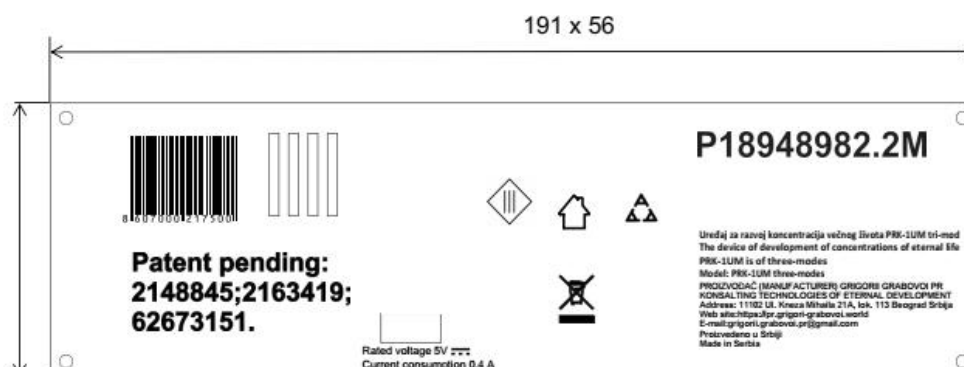
Other:...

Information on uncertainty of measurement:

The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECCE.

IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

Copy of marking plate(s):



Possible test case verdicts	
Test case does not apply to the test object.....	N/A
Test item does meet the requirement.....	P (Pass)
Test item does not meet the requirement.....	F (Fail)
Testing	
Date of receipt of test item.....	2024-03-06
Date of performance of test.....	2024-03-08 ... 2024-03-14
General remarks	
<p>"(See Enclosure #)" refers to additional information appended to the report.</p> <p>"(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.</p> <p>Data format is: yyyy-mm-dd</p>	
General product information and other remarks	
<p>The equipment under test (EUT) is a household appliance. The EUT has a plastic housing. Power supply is 5V DC via USB port. Inside the case there are electronic components as well as electromechanical ones.</p>	

Clause	Requirement – Test	Result - Remark	Verdict
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5	GENERAL CONDITIONS FOR THE TESTS		P
	Tests performed according to clause 5, e.g. nature of supply, sequence of testing, etc.		P
6	CLASSIFICATION		P
6.1	Protection against electric shock: Class I, II, III.....:	Class III	P
6.2	Protection against harmful ingress of water	IPX0	N/A
7	MARKING AND INSTRUCTIONS		P
7.1	Rated voltage or voltage range (V).....:	5V	P
	Symbol for nature of supply, or.....:	Input frequency is rated	N/A
	Rated frequency (Hz)	DC	N/A
	Rated power input (W), or	Input current is rated	N/A
	Rated current (A)	0,4A	P
	Manufacturer's or responsible vendor's name, trademark or identification mark.....:	See Copy of marking plate	P
	Model or type reference.....:	See Copy of marking plate	P
	Symbol IEC 60417-5172, for class II appliances	Class III appliance	N/A
	IP number, other than IPX0	Not rated. IPX0 is considered.	N/A
	Symbol IEC 60417-5180, for class III appliances, unless	See Copy of marking plate	P
	the appliance is operated by batteries only	No batteries	N/A
	Symbol IEC 60417-5180, for class II and class III appliances incorporating a functional earth	No functional earth	N/A
	Rated voltage or rated voltage range shall cover:		N/A
	- 230 V for single-phase appliances;	Class III appliance	N/A
	- 400 V for multi-phase appliances.	See above	N/A
	Symbol IEC 60417-5036, for the enclosure of electrically-operated water valves in external hose-sets for connection of an appliance to the water mains, if the working voltage exceeds extra-low voltage		N/A

EN 60335-1			
Clause	Requirement – Test	Result - Remark	Verdict

7.2	Warning for stationary appliances for multiple supply	No multiple supply connection	N/A
	Warning placed in vicinity of terminal cover		N/A
7.3	Range of rated values marked with the lower and upper limits separated by a hyphen	No ranges	N/A
	Different rated values marked with the values separated by an oblique stroke		N/A
7.4	Appliances adjustable for different rated voltages or rated frequencies, the voltage or the frequency setting is clearly discernible	No such case	N/A
	Requirement met if frequent changes are not required and the rated voltage or rated frequency to which the appliance is to be adjusted is determined from a wiring diagram		N/A
7.5	Appliances with more than one rated voltage or one or more rated voltage ranges, marked with rated input or rated current for each rated voltage or range, unless	Only one rated voltage	N/A
	the power input or current are related to the arithmetic mean value of the rated voltage range		N/A
	Relation between marking for upper and lower limits of rated power input or rated current and voltage is clear		N/A
7.6	Correct symbols used		P
	Symbol for nature of supply placed next to rated voltage	DC power symbol	P
	Symbol for class II appliances placed unlikely to be confused with other marking		N/A
	Units of physical quantities and their symbols according to international standardized system	Comply	P
7.7	Connection diagram fixed to appliances to be connected to more than two supply conductors and appliances for multiple supply, unless	One supply cord	N/A
	correct mode of connection is obvious	See above	N/A
7.8	Except for type Z attachment, terminals for connection to the supply mains indicated as follows:		N/A
	- marking of terminals exclusively for the neutral conductor (letter N)	Appliance has an inlet for connection. Class III appliance.	N/A
	- marking of protective earthing terminals (symbol IEC 60417-5019)	Class III appliance.	N/A

Clause	Requirement – Test	Result - Remark	Verdict
	- marking of functional earthing terminals (symbol IEC 60417-5018)	Class III appliance.	N/A
	- marking not placed on removable parts	Class III appliance.	N/A
7.9	Marking or placing of switches which may cause a hazard	It is obviously unnecessary	N/A
7.10	Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means	Visual	P
	This applies also to switches which are part of a control		P
	If figures are used, the off position indicated by the figure 0	Accordingly	P
	The figure 0 indicates only OFF position, unless no confusion with the OFF position		P
	Devices used to start/stop operational functions of the appliance, if any, shall be distinguished from other manual devices by means of shape, or size, or surface texture, or position, etc.		P
	An indication that the device has been operated shall be given by:		N/A
	A tactile feedback or		N/A
	An audible and visual feedback.		P
	A selector switch with an off-position clearly identifiable is allowed.	No selector switch	N/A
	An ON/OFF switch, if any, is considered a suitable device to stop operational functions.		P
	A plug is not considered a suitable device to stop operational functions, as it can be difficult to be reached by vulnerable persons.		N/A
7.11	Indication for direction of adjustment of controls	No such controls	N/A
7.12	Instructions for safe use provided		P
	Details concerning precautions during user maintenance		P
	The instructions state that:		P
	This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.	Replaced by EN 60335-1	N/A

EN 60335-1			
Clause	Requirement – Test	Result - Remark	Verdict

	Children shall not play with the appliance.	Replaced by EN 60335-1	N/A
	Cleaning and user maintenance shall not be made by children without supervision	Replaced by EN 60335-1	N/A
	For a part of class III construction supplied from a detachable power supply unit, the instructions state that the appliance is only to be used with the unit provided		N/A
	Instructions for class III appliances state that it must only be supplied at SELV, unless		P
	it is a battery-operated appliance, the battery being charged outside the appliance	No battery	N/A
	For appliances for altitudes exceeding 2000 m, the maximum altitude is stated.....:		N/A
	The instructions for appliances incorporating a functional earth states that the appliance incorporates an earth connection for functional purposes only		N/A
7.12.1	Sufficient details for installation supplied		P
	For an appliance intended to be permanently connected to the water mains and not connected by a hose-set, this is stated	Not connected to water mains	N/A
	If different rated voltages or different rated frequencies are marked, the instructions state what action to be taken to adjust the appliance		N/A
7.12.2	Stationary appliances not fitted with means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under overvoltage category III, the instructions state that means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules	Class III appliance	N/A
7.12.3	Insulation of the fixed wiring in contact with parts exceeding 50 K during clause 11; instructions state that the fixed wiring must be protected	See above	N/A
7.12.4	Instructions for built-in appliances:		N/A
	- dimensions of space	No build-in appliance	N/A
	- dimensions and position of supporting and fixing		N/A
	- minimum distances between parts and surrounding structure		N/A
	- minimum dimensions of ventilating openings and arrangement		N/A
	- connection to supply mains and interconnection of separate components		N/A
	- allow disconnection of the appliance after installation, by accessible plug or a switch in the fixed wiring, unless		N/A
	a switch complying with 24.3		N/A

EN 60335-1			
Clause	Requirement – Test	Result - Remark	Verdict
7.12.5	Replacement cord instructions, type X attachment with a specially prepared cord		N/A
	Replacement cord instructions, type Y attachment		N/A
	Replacement cord instructions, type Z attachment		N/A
7.12.6	Caution in the instructions for appliances incorporating a non-self-resetting thermal cut-out that is reset by disconnection of the supply mains, if this cut-out is required to comply with the standard	No such components	N/A
7.12.7	Instructions for fixed appliances stating how the appliance is to be fixed	Stationary appliance	N/A
7.12.8	Instructions for appliances connected to the water mains:		N/A
	- max. inlet water pressure (Pa)		N/A
	- min. inlet water pressure, if necessary (Pa)		N/A
	Instructions concerning new and old hose-sets for appliances connected to the water mains by detachable hose-sets		N/A
7.13	Instructions and other texts in an official language	Serbian/English	P
7.14	Marking clearly legible and durable, rubbing test as specified	Engraved	P
7.15	Markings on a main part		P
	Marking clearly discernible from the outside, if necessary after removal of a cover		P
	For portable appliances, cover can be removed or opened without a tool	No covers	N/A
	For stationary appliances, name, trademark or identification mark and model or type reference visible after installation	See Copy of marking plate	P
	For fixed appliances, name, trademark or identification mark and model or type reference visible after installation according to the instructions		N/A
	Indications for switches and controls placed on or near the components. Marking not on parts which can be positioned or repositioned in such a way that the marking is misleading		P
	The symbol IEC 60417-5018 placed next to the symbol IEC 60417-5172 or IEC 60417-5180	No functional earthing	N/A
7.16	Marking of a possible replaceable thermal link or fuse link clearly visible with regard to replacing the link	No such component	N/A
8	PROTECTION AGAINST ACCESS TO LIVE PARTS		N/A
8.1	Adequate protection against accidental contact with live parts	Class III appliance	N/A
8.1.1	Requirement applies for all positions, detachable parts removed		N/A

EN 60335-1			
Clause	Requirement – Test	Result - Remark	Verdict

	Lamps behind a detachable cover not removed, if conditions met		N/A
	Insertion or removal of lamps, protection against contact with live parts of the lamp cap		N/A
	Use of test probe B and probe 18 of IEC 61032, with a force not exceeding 1 N: no contact with live parts		N/A
	Use of test probe B of IEC 61032 through openings, with a force of 20N or test probe 18 with a force of 10N: no contact with live parts		N/A
8.1.2	Use of test probe 13 of IEC 61032, with a force not exceeding 1 N, through openings in class 0 appliances and class II appliances/constructions: no contact with live parts		N/A
	Test probe 13 also applied through openings in earthed metal enclosures having a non-conductive coating: no contact with live parts		N/A
8.1.3	For appliances other than class II, use of test probe 41 of IEC 61032, with a force not exceeding 1 N: no contact with live parts of visible glowing heating elements		N/A
8.1.4	Accessible part not considered live if:		N/A
	- safety extra-low a.c. voltage: peak value not exceeding 42.4 V		N/A
	- safety extra-low d.c. voltage: not exceeding 42.4 V		N/A
	- or separated from live parts by protective impedance		N/A
	If protective impedance: d.c. current not exceeding 2 mA, and		N/A
	a.c. peak value not exceeding 0.7 mA		N/A
	- for peak values over 42.4 V up to and including 450 V, capacitance not exceeding 0,1 F		N/A
	- for peak values over 450 V up to and including 15 kV, discharge not exceeding 45 C		N/A
	- for peak values over 15kV, the energy in the discharge not exceeding 350 mJ		N/A
8.1.5	Live parts protected at least by basic insulation before installation or assembly:		N/A
	- built-in appliances		N/A
	- fixed appliances		N/A
	- appliances delivered in separate units		N/A
8.2	Class II appliances and constructions constructed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only		N/A
	Only possible to touch parts separated from live parts by double or reinforced insulation		N/A

Clause	Requirement – Test	Result - Remark	Verdict
8.3	Battery-operated appliance where the battery circuit has a functional earth connection or a supply connection, it shall only be possible to touch parts within a battery compartment where:		N/A
	– in class I appliances and class II appliances, they are separated from live parts by double insulation or reinforced insulation;		N/A
	– the battery compartment is of class III construction. However, if the limits in 8.1.4 are exceeded, then basic insulation is required in addition to supply at SELV.		N/A
9	STARTING OF MOTOR-OPERATED APPLIANCES		N/A
	Requirements and tests are specified in part 2 when necessary	No part 2	N/A
10	POWER INPUT AND CURRENT		P
10.1	Power input at normal operating temperature, rated voltage and normal operation not deviating from rated power input by more than shown in table 1 ...:	(See appended table)	N/A
	If the power input varies throughout the operating cycle and the maximum value of the power input exceeds, by a factor greater than two, the arithmetic mean value of the power input occurring during a representative period, the power input is the maximum value that is exceeded for more than 10 % of the representative period		N/A
	Otherwise the power input is the arithmetic mean value		N/A
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		N/A
	the rated power input is related to the arithmetic mean value		N/A
10.2	Current at normal operating temperature, rated voltage and normal operation not deviating from rated current by more than shown in table 2	(See appended table)	P
	If the current varies throughout the operating cycle and the maximum value of the current exceeds, by a factor greater than two, the arithmetic mean value of the current occurring during a representative period, the current is the maximum value that is exceeded for more than 10 % of the representative period		N/A
	Otherwise the current is the arithmetic mean value		N/A
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		N/A
	the rated current is related to the arithmetic mean value of the range		N/A
11	HEATING		P

EN 60335-1			
Clause	Requirement – Test	Result - Remark	Verdict

11.1	No excessive temperatures in normal use		P
11.2	The appliance is held, placed or fixed in position as described	Portable appliance	P
11.3	Temperature rises, other than of windings, determined by thermocouples	Accordingly	P
	Temperature rises of windings determined by resistance method, unless	See below	N/A
	the windings are non-uniform or it is difficult to make the necessary connections	Accordingly	P
11.4	Heating appliances operated under normal operation at 1.15 times rated power input (W):	No heating appliance	N/A
11.5	Motor-operated appliances operated under normal operation at most unfavourable voltage between 0.94 and 1.06 times rated voltage (V)	No motor-operated appliance	N/A
11.6	Combined appliances operated under normal operation at most unfavourable voltage between 0.94 and 1.06 times rated voltage (V)	Considered, 5V x 1,06 = 5,3V	P
11.7	Operation duration corresponding to the most unfavourable conditions of normal use		P
11.8	Temperature rises monitored continuously and not exceeding the values in table 3	(see appended table)	P
	If the temperature rise of a motor winding exceeds the value of table 3, or	No motors	N/A
	if there is doubt with regard to classification of insulation,		N/A
	tests of Annex C are carried out		N/A
	Sealing compound does not flow out	No sealing compounds	N/A
	Protective devices do not operate, except	No protective devices	N/A
	components in protective electronic circuits tested for the number of cycles specified in 24.1.4	No such components	N/A
13	LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE		N/A
13.1	Leakage current not excessive and electric strength adequate	Class III appliance	N/A
	Heating appliances operated at 1.15 times the rated power input (W)		N/A
	Motor-operated appliances and combined appliances supplied at 1.06 times the rated voltage (V)		N/A
	Protective impedance and radio interference filters disconnected before carrying out the tests		N/A
13.2	For class II and class III appliances, and class II constructions, leakage current measured by means of the circuit described in figure 4 of IEC 60990		N/A
	For class I appliances, a low impedance ammeter may be used		N/A

Clause	Requirement – Test	Result - Remark	Verdict
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	Leakage current measurements	(see appended table)	N/A
13.3	The appliance is disconnected from the supply		N/A
	Electric strength tests according to table 4.....	(see appended table)	N/A
	No breakdown during the tests		N/A
14	TRANSIENT OVERVOLTAGES		N/A
	Appliances withstand the transient over-voltages to which they may be subjected	Class III appliance	N/A
	Clearances having a value less than specified in table 16 subjected to an impulse voltage test, the test voltage specified in table 6	(See appended table)	N/A
	No flashover during the test, unless		N/A
	of functional insulation if the appliance complies with clause 19 with the clearance short-circuited		N/A
15	MOISTURE RESISTANCE		N/A
15.1	Enclosure provides the degree of moisture protection according to classification of the appliance	Class III appliance, IPX0	N/A
	Compliance checked as specified in 15.1.1, taking into account 15.1.2, followed by the electric strength test of 16.3		N/A
	No trace of water on insulation which can result in a reduction of clearances or creepage distances below values specified in clause 29		N/A
15.1.1	Appliances, other than IPX0, subjected to tests as specified in IEC 60529.....	IPX0 appliance	N/A
	Water valves containing live parts in external hoses for connection of an appliance to the water mains tested as specified for IPX7 appliances		N/A
15.1.2	Hand-held appliance turned continuously through the most unfavourable positions during the test		N/A
	Built-in appliances installed according to the instructions		N/A
	Appliances with an automatic cord reel are tested with the cord in the most unfavourable position in such a way that the reeling of the wet cord		N/A
	Appliances placed or used on the floor or table placed on a horizontal unperforated support		N/A
	Appliances normally fixed to a wall and appliances with pins for insertion into socket-outlets are mounted on a wooden board		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

	For IPX3 appliances, the base of wall mounted appliances is placed at the same level as the pivot axis of the oscillating tube		N/A
	For IPX4 appliances, the horizontal centre line of the appliance is aligned with the pivot axis of the oscillating tube, and		N/A
	for appliances normally used on the floor or table, the movement is limited to two times 90° for a period of 5 min, the support being placed at the level of the pivot axis of the oscillating tube		N/A
	Wall-mounted appliances, take into account the distance to the floor stated in the instructions		N/A
	Appliances normally fixed to a ceiling are mounted underneath a horizontal unperforated support, the pivot axis of the oscillating tube located at the level of the underside of the support, and		N/A
	for IPX4 appliances, the movement of the tube is limited to two times 90° from the vertical for a period of 5 min		N/A
	Appliances with type X attachment fitted with a flexible cord as described		N/A
	Detachable parts subjected to the relevant treatment with the main part		N/A
	However, if a part has to be removed for user maintenance and a tool is needed, this part is not removed		N/A
15.2	Spillage of liquid does not affect the electrical insulation		N/A
	Spillage solution comprising water containing approximately 1 % NaCl and 0,6 % rinsing agent		N/A
	Appliances with type X attachment fitted with a flexible cord as described		N/A
	Appliances incorporating an appliance inlet tested with or without an connector, whichever is most unfavourable		N/A
	Detachable parts are removed		N/A
	Overfilling test with additional amount of the solution, over a period of 1 min (l)		N/A
	The appliance withstands the electric strength test of 16.3		N/A

Clause	Requirement – Test	Result - Remark	Verdict
	No trace of water on insulation that can result in a reduction of clearances or creepage distances below values specified in clause 29		N/A
15.3	Appliances proof against humid conditions		N/A
	Checked by test Cab: Damp heat steady state in IEC 60068-2-78		N/A
	Detachable parts removed and subjected, if necessary, to the humidity test with the main part		N/A
	Humidity test for 48 h in a humidity cabinet		N/A
	Reassembly of those parts that may have been removed		N/A
	The appliance withstands the tests of clause 16		N/A
16	LEAKAGE CURRENT AND ELECTRIC STRENGTH		N/A
16.1	Leakage current not excessive and electric strength adequate	Class III appliance	N/A
	Protective impedance disconnected from live parts before carrying out the tests		N/A
	Tests carried out at room temperature and not connected to the supply		N/A
16.2	Single-phase appliances: test voltage 1.06 times rated voltage (V)		N/A
	Three-phase appliances: test voltage 1.06 times rated voltage divided by $\sqrt{3}$ (V)		N/A
	Leakage current measurements	(see appended table)	N/A
	Limit values doubled if:		N/A
	- all controls have an off position in all poles, or		N/A
	- the appliance has no control other than a thermal cut-out, or		N/A
	- all thermostats, temperature limiters and energy regulators do not have an off position, or		N/A
	- the appliance has radio interference filters		N/A
	With the radio interference filters disconnected, the leakage current do not exceed limits specified.....:	(see appended table)	N/A
16.3	Electric strength tests according to table 7	(see appended table)	N/A

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Clause	Requirement – Test	Result - Remark	Verdict

	Test voltage applied between the supply cord and inlet bushing and cord guard and cord anchorage as specified.....:	(see appended table)	N/A
	No breakdown during the tests		N/A
17	OVERLOAD PROTECTION OF TRANSFORMERS AND ASSOCIATED CIRCUITS		N/A
	No excessive temperatures in transformer or associated circuits in event of short-circuits likely to occur in normal use	No transformers (see appended table with temperature measurement)	N/A
	Appliance supplied with 1.06 or 0.94 times rated voltage under the most unfavourable short-circuit or overload likely to occur in normal use (V).....:		N/A
	Basic insulation is not short-circuited		N/A
	Temperature rise of insulation of the conductors of safety extra-low voltage circuits not exceeding the relevant value specified in table 3 by more than 15 K		N/A
	Temperature of the winding not exceeding the value specified in table 8		N/A
	However, limits do not apply to fail-safe transformers complying with sub-clause 15.5 of IEC 61558-1		N/A
18	ENDURANCE		N/A
	Requirements and tests are specified in part 2 when necessary	No part 2	N/A
19	ABNORMAL OPERATION		P
19.1	The risk of fire, mechanical damage or electric shock under abnormal or careless operation obviated		P
	Electronic circuits so designed and applied that a fault will not render the appliance unsafe	(see appended table)	P
	Appliances incorporating heating elements subjected to the tests of 19.2 and 19.3, and	No heating elements	N/A
	if the appliance also has a control that limit the temperature during clause 11 it is subjected to the test of 19.4, and	No control that limit temperature	N/A
	if applicable, to the test of 19.5	See above	N/A
	Appliances incorporating PTC heating elements are also subjected to the test of 19.6	No heating elements	N/A
	Appliances incorporating motors subjected to the tests of 19.7 to 19.10, as applicable	No motors	N/A

Clause	Requirement – Test	Result - Remark	Verdict
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	Appliances incorporating electronic circuits subjected to the tests of 19.11 and 19.12, as applicable	Accordingly	P
	Appliances incorporating contactors or relays subjected to the test of 19.14, being carried out before the tests of 19.11	No contactors or relays	N/A
	Appliances incorporating voltage selector switches subjected to the test of 19.15	No voltage selectors	N/A
	Unless otherwise specified, the tests are continued until a non-self-resetting thermal cut-out operates, or	No such parts	N/A
	until steady conditions are established		P
	If a heating element or intentionally weak part becomes open-circuited, the relevant test is repeated on a second sample	No heaters	N/A
	Normal use of radio appliance is where an operation frequency or a harmonic of an operation frequency are closest to a transmitter frequency.		N/A
	Radio-transmitter operates in the most unfavourable conditions.		N/A
19.2	Test of appliances with heating elements with restricted heat dissipation; test voltage (V), power input of 0.85 times rated power input (W)		N/A
19.3	Test of 19.2 repeated; test voltage (V), power input of 1.24 times rated power input (W)		N/A
19.4	Test conditions as in clause 11, any control limiting the temperature during tests of clause 11 short-circuited		N/A
19.5	Test of 19.4 repeated on I appliances with tubular sheathed or embedded heating elements. No short-circuiting, but one end of the element connected to the sheath		N/A
	The test repeated with reversed polarity and the other end of the heating element connected to the sheath		N/A
	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		N/A
19.6	Appliances with PTC heating elements tested at rated voltage, establishing steady conditions		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

	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 or until the PTC heating element ruptures (V).....:		N/A
19.7	Stalling test by locking the rotor if the locked rotor torque is smaller than the full load torque, or		N/A
	locking moving parts of other appliances		N/A
	Locked rotor, capacitors open-circuited one at a time		N/A
	Test repeated with capacitors short-circuited one at a time, unless		N/A
	the capacitor is of class P2 of IEC 60252-1		N/A
	Appliances with timer or programmer supplied with rated voltage for each of the tests, for a period equal to the maximum period allowed		N/A
	An electronic timer or programmer that operates to ensure compliance with the test before the maximum period under the conditions of Clause 11 is reached, is a protective electronic circuit		N/A
	Other appliances supplied with rated voltage for a period as specified.....:		N/A
	Winding temperatures not exceeding values specified in table 8.....:	(see appended table)	N/A
19.8	Multi-phase motors operated at rated voltage with one phase disconnected		N/A
19.9	Running overload test on appliances incorporating motors intended to be remotely or automatically controlled or liable to be operated continuously		N/A
	Motor-operated and combined appliances for which 30.2.3 is applicable and that use overload protective devices relying on electronic circuits to protect the motor windings, are also subjected to the test		N/A
	Winding temperatures not exceeding values as specified		N/A
19.10	Series motor operated at 1.3 times rated voltage for 1 min (V).....:		N/A
	During the test, parts not being ejected from the appliance		N/A

Clause	Requirement – Test	Result - Remark	Verdict
19.11	Electronic circuits, compliance checked by evaluation of the fault conditions specified in 19.11.2 for all circuits or parts of circuits, unless	See below	N/A
	they comply with the conditions specified in 19.11.1	LPS	P
	Appliances incorporating an electronic circuit that relies upon a programmable component to function correctly, subjected to the test of 19.11.4.8, unless	No programmable components	N/A
	restarting does not result in a hazard		N/A
	Appliances having a device with an off position obtained by electronic disconnection, or a device placing the appliance in a stand-by mode, subjected to the tests of 19.11.4		N/A
	If the safety of the appliance under any of the fault conditions depends on the operation of a miniature fuse-link complying with IEC 60127, the test of 19.12 is carried out	No fuses	N/A
	During and after each test the following is checked:		N/A
	- the temperature of the windings do not exceed the values specified in table 8		N/A
	- the appliance complies with the conditions specified in 19.13		N/A
	- any current flowing through protective impedance not exceeding the limits specified in 8.1.4		N/A
	If a conductor of a printed board becomes open-circuited, the appliance is considered to have withstood the particular test, provided both of the following conditions are met:		N/A
	- the base material of the printed circuit board withstands the test of Annex E	Tests are not considered.	N/A
	- any loosened conductor does not reduce clearance or creepage distances between live parts and accessible metal parts below the values specified in clause 29		N/A
19.11.1	Fault conditions a) to g) in 19.11.2 are not applied to circuits or parts of circuits meeting both of the following conditions:		P
	- the electronic circuit is a low-power circuit, that is, the maximum power at low-power points does not exceed 15 W according to the tests specified		P
	- the 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		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

19.11.2	Fault conditions applied one at a time, the appliance operating under conditions specified in clause 11, but supplied at rated voltage, duration of the tests as specified:		N/A
	a) short circuit of functional insulation if clearances or creepage distances are less than the values specified in clause 29		N/A
	b) open circuit at the terminals of any component		N/A
	c) short circuit of capacitors, unless		N/A
	they comply with IEC 60384-14	X or Y capacitors	N/A
	d) short circuit of any two terminals of an electronic component, other than integrated circuits		N/A
	This fault condition is not applied between the two circuits of an optocoupler		N/A
	e) failure of triacs in the diode mode		N/A
	f) failure of microprocessors and integrated circuits		N/A
	g) failure of an electronic power switching device		N/A
	Each low power circuit is short-circuited by connecting the low-power point to the pole of the supply source from which the measurements were made		N/A
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 g) of 19.11.2		N/A
19.11.4	Appliances having a device with an off position obtained by electronic disconnection, or	No such device	N/A
	a device that can be placed in the stand-by mode,	See above	N/A
	subjected to the tests of 19.11.4.1 to 19.11.4.7, the device being set in the off position or in the stand-by mode	See above	N/A
	Appliances incorporating a protective electronic circuit subjected to the tests of 19.11.4.1 to 19.11.4.7, the tests being carried out after the protective electronic circuit has operated, except that	See above	N/A
	appliances operated for 30 s or 5 min during the test of 19.7 are not subjected to the tests for electromagnetic phenomena.		N/A
	Surge protective devices disconnected, unless		N/A

Clause	Requirement – Test	Result - Remark	Verdict
	They incorporate spark gaps		N/A
19.11.4.1	The appliance is subjected to electrostatic discharges in accordance with IEC 61000-4-2, test level 4	See separate EMC test report	N/A
19.11.4.2	The appliance is subjected to radiated fields in accordance with IEC 61000-4-3, test level 3	See above	N/A
19.11.4.3	The appliance is subjected to fast transient bursts in accordance with IEC 61000-4-4, test level 3 or 4 as specified	See above	N/A
19.11.4.4	The power supply terminals of the appliance subjected to voltage surges in accordance with IEC 61000-4-5, test level 3 or 4 as specified	See above	N/A
	An open circuit test voltage of 2 kV is applicable for the line-to-line coupling mode	See above	N/A
	An open circuit test voltage of 4 kV is applicable for the line-to-earth coupling	See above	N/A
	Earthed heating elements in class I appliances disconnected	See above	N/A
19.11.4.5	The appliance is subjected to injected currents in accordance with IEC 61000-4-6, test level 3	See above	N/A
19.11.4.6	Appliances having a rated current not exceeding 16 A are subjected to the Class 3 voltage dips and interruptions in accordance with IEC 61000-4-11	See above	N/A
	Appliances having a rated current exceeding 16 A are subjected to the Class 3 voltage dips and interruptions in accordance with IEC 61000-4-34	See above	N/A
19.11.4.7	The appliance is subjected to mains signals in accordance with IEC 61000-4-13, test level class 2	See above	N/A
19.11.4.8	The appliance is supplied at rated voltage and operated under normal operation. After 60s the power supply is reduced to a level such that the appliance ceases to respond or parts controlled by the programmable component cease to operate	Accordingly	P
	The appliance continues to operate normally, or		P
	requires a manual operation to restart		N/A
19.12	If the safety of the appliance for any of the fault conditions specified in 19.11.2 depends on the operation of a miniature fuse-link complying with IEC 60127, the test is repeated, measuring the current flowing through the fuse-link; measured current (A); rated current of the fuse-link (A).....:	No fuses	N/A

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Clause	Requirement – Test	Result - Remark	Verdict

19.13	During the tests the appliance does not emit flames, molten metal, poisonous or ignitable gas in hazardous amounts		P
	Temperature rises not exceeding the values shown in table 9	(see appended table)	P
	Compliance with clause 8 not impaired	No live parts	N/A
	If the appliance can still be operated it complies with 20.2		P
	Insulation, other than of class III appliances or class III constructions that do not contain live parts, withstands the electric strength test of 16.3, the test voltage as specified in table 4:		N/A
	- basic insulation (V)	(see appended table)	N/A
	- supplementary insulation (V)	(see appended table)	N/A
	- reinforced insulation (V)	(see appended table)	N/A
	After operation or interruption of a control, clearances and creepage distances across the functional insulation withstand the electric strength test of 16.3, the test voltage being twice the working voltage		N/A
	The appliance does not undergo a dangerous malfunction, and		N/A
	no failure of protective electronic circuits, if the appliance is still operable	No PEC	N/A
	Appliances tested with an electronic switch in the off position, or in the stand-by mode:		N/A
	- do not become operational, or		N/A
	- if they become operational, do not result in a dangerous malfunction during or after the tests of 19.11.4		N/A
	If the appliance contains lids or doors that are controlled by one or more interlocks, one of the interlocks may be released provided that:		N/A
	- the lid or door does not move automatically to an open position when the interlock is released, and		N/A
	- the appliance does not start after the cycle in which the interlock was released		N/A
19.14	Appliances operated under the conditions of clause 11, any contactor or relay contact operating under the conditions of clause 11 being short-circuited		N/A

Clause	Requirement – Test	Result - Remark	Verdict
	For a relay or contactor with more than one contact, all contacts are short-circuited at the same time		N/A
	A relay or contactor operating only to ensure the appliance is energized for normal use is not short-circuited		N/A
	If more than one relay or contactor operates in clause 11, they are short-circuited in turn		N/A
19.15	For appliances with a mains voltage selector switch, the switch is set to the lowest rated voltage position and the highest value of rated voltage is applied	No such components	N/A
20	STABILITY AND MECHANICAL HAZARDS		P
20.1	Appliances having adequate stability	Stationary appliance. Intended to be used on a table.	P
	Tilting test through an angle of 10°, appliance placed on an inclined plane/horizontal support, not connected to the supply mains; appliance does not overturn	Comply	P
	Tilting test repeated on appliances with heating elements, angle of inclination increased to 15°	No heating elements	N/A
	Possible heating test in overturned position; temperature rise does not exceed values shown in table 9	See above	N/A
20.2	Hazardous moving parts adequately arranged or enclosed as to provide protection against personal injury	No moving parts	N/A
	For appliances having hazardous moving parts, due to their working function full protection is not possible for performing their intended use	See above	N/A
	Protective enclosures, guards and similar parts are non-detachable, and		P
	have adequate mechanical strength		P
	Enclosures that can be opened by overriding an interlock are considered to be detachable parts	No interlocks	N/A
	Self-resetting thermal cut-outs and overcurrent protective devices not causing a hazard by unexpected closure		N/A
	Not possible to touch hazardous moving parts with the test probe described	No moving parts	N/A
21	MECHANICAL STRENGTH		P

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Clause	Requirement – Test	Result - Remark	Verdict
21.1	Appliance has adequate mechanical strength and is constructed as to withstand rough handling	Accordingly	P
	Checked by applying 3 blows to every point of the enclosure like to be weak, in accordance with test Ehb of IEC 60068-2-75, spring hammer test, with an impact energy of 0,5 J	Ehc test performed	P
	The appliance shows no damage impairing compliance with this standard, and		P
	compliance with 8.1, 15.1 and clause 29 not impaired	No change of functional insulation clearance.	P
	If doubt, supplementary or reinforced insulation subjected to the electric strength test of 16.3		N/A
	If necessary, repetition of groups of three blows on a new sample		N/A
21.2	Accessible parts of solid insulation having strength to prevent penetration by sharp implements	Class III appliance	N/A
	Test not applicable if the thickness of supplementary insulation is at least 1 mm and reinforced insulation at least 2 mm		N/A
	The insulation is tested as specified, and does withstand the electric strength test of 16.3		N/A
22	CONSTRUCTION		P
22.1	Appliance marked with the first numeral of the IP system, relevant requirements of IEC 60529 are fulfilled	Not marked. Appliance is considering IP2X	N/A
22.2	Stationary appliance: means to ensure all-pole disconnection from the supply being provided:		P
	- a supply cord fitted with a plug, or		N/A
	- a switch complying with 24.3, or		N/A
	- a statement in the instruction sheet that a disconnection incorporated in the fixed wiring is to be provided, or		N/A
	- an appliance inlet		P
	Single-pole switches and single-pole protective devices for the disconnection of heating elements in single-phase, permanently connected class I appliances, connected to the phase conductor		N/A
22.3	Appliance provided with pins: no undue strain on socket-outlets	Appliance not provided with pins	N/A
	Applied torque not exceeding 0.25 Nm		N/A

Clause	Requirement – Test	Result - Remark	Verdict
	Pull force of 50N to each pin after the appliance has been placed in the heating cabinet; when cooled to room temperature the pins are not displaced by more than 1mm		N/A
	Each pin subjected to a torque of 0.4Nm; the pins are not rotating, unless		N/A
	rotating does not impair compliance with this standard		N/A
22.4	Appliance for heating liquids and appliance causing undue vibration not provided with pins for insertion into socket-outlets	No heating elements	N/A
22.5	No risk of electric shock when touching the pins of the plug, for appliances having a capacitor with rated capacitance equal to or greater than 0,1µF, the appliance being disconnected from the supply at the instant of voltage peak	Class III appliance	N/A
	Voltage not exceeding 34 V (V).....:	See above	N/A
	If compliance relies on the operation of an electronic circuit, the electromagnetic phenomena tests of 19.11.4.3 and 19.11.4.4 are applied		N/A
	The discharge test is then repeated three times, voltage not exceeding 34 V (V)		N/A
22.6	Electrical insulation not affected by condensing water or leaking liquidq	Class III appliance	N/A
	Electrical insulation of Class II appliances not affected if a hose ruptures or seal leaks	Class III appliance	N/A
	In case of doubt, test as described		N/A
22.7	Adequate safeguards against the risk of excessive pressure in appliances containing liquid or gases or having steam-producing devices		N/A
22.8	Electrical connections not subject to pulling during cleaning of compartments to which access can be gained without the aid of a tool, and that are likely to be cleaned in normal use	No connections subject to pulling	N/A
22.9	Insulation, internal wiring, windings, commutators and slip rings not exposed to oil, grease or similar substances, unless	No such components	N/A
	the substance has adequate insulating properties		N/A
22.10	Not possible to reset voltage-maintained non-self-resetting thermal cut-outs by the operation of an automatic switching device incorporated within the appliance, if:	No such parts	N/A

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Clause	Requirement – Test	Result - Remark	Verdict

	- a non-self-resetting thermal cut-out is required by the standard, and		N/A
	- a voltage maintained non-self-resetting thermal cut-out is used to meet it		N/A
	Non-self-resetting thermal motor protectors have a trip-free action, unless		N/A
	they are voltage maintained		N/A
	Reset buttons of non-self-resetting controls so located or protected that accidental resetting is unlikely		N/A
22.11	Reliable fixing of non-detachable parts that provide the necessary degree of protection against electric shock, moisture or contact with moving parts	Class III appliance	N/A
	Obvious locked position of snap-in devices used for fixing such parts		N/A
	No deterioration of the fixing properties of snap-in devices used in parts that are likely to be removed during installation or servicing		N/A
	Tests as described		N/A
22.12	Handles, knobs etc. fixed in a reliable manner	Actuators of switches	P
	Fixing in wrong position of handles, knobs etc. indicating position of switches or similar components not possible		P
	Axial force 15 N applied to parts, the shape being so that an axial pull is unlikely to be applied	Push-button of switch	P
	Axial force 30 N applied to parts, the shape being so that an axial pull is likely to be applied		N/A
22.13	Unlikely that handles, when gripped as in normal use, make the operator's hand touch parts having a temperature rise exceeding the value specified for handles which are held for short periods only		N/A
22.14	No ragged or sharp edges creating a hazard for the user in normal use, or during user maintenance		P
	No exposed pointed ends of self-tapping screws or other fasteners, likely to be touched by the user in normal use or during user maintenance		P
22.15	Storage hooks and the like for flexible cords smooth and well rounded	No hooks	N/A
22.16	Automatic cord reels cause no undue abrasion or damage to the sheath of the flexible cord, no breakage of conductors strands and no undue wear of contacts	No automatic cord reels	N/A

Clause	Requirement – Test	Result - Remark	Verdict
	Cord reel tested with 6000 operations, as specified		N/A
	Electric strength test of 16.3, voltage of 1000 V applied		N/A
22.17	Spacers not removable from the outside by hand or by means of a screwdriver or a spanner	No spacers	N/A
	This is not applicable to built-in appliances.		N/A
22.18	Current-carrying parts and other metal parts resistant to corrosion		P
22.19	Driving belts not relied upon to provide the required level of insulation, unless	No driving belts	N/A
	constructed to prevent inappropriate replacement		N/A
22.20	Direct contact between live parts and thermal insulation effectively prevented, unless	Class III appliance	N/A
	material used is non-corrosive, non-hygroscopic and non-combustible		N/A
22.21	Wood, cotton, silk, ordinary paper and fibrous or hygroscopic material not used as insulation, unless	No such parts used for insulation	P
	impregnated		P
	This requirement does not apply to magnesium oxide and mineral ceramic fibres used for the electrical insulation of heating elements		N/A
22.22	Appliances not containing asbestos		P
22.23	Oils containing polychlorinated biphenyl (PCB) not used	No oils	N/A
22.24	Bare heating elements, except in class III appliances or class III constructions that do not contain live parts, adequately supported	No bare heating elements	N/A
	In case of rupture, the heating conductor is unlikely to come in contact with accessible metal parts		N/A
22.25	Sagging heating conductors, except in class III appliances or class III constructions that do not contain live parts, cannot come into contact with accessible metal parts	No sagging heating elements	N/A
22.26	For class III constructions the insulation between parts operating at safety extra-low voltage and other live parts complies with the requirements for double or reinforced insulation	No live parts	N/A
22.27	Parts connected by protective impedance separated by double or reinforced insulation		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
22.28	Metal parts of Class II appliances conductively connected to gas pipes or in contact with water, separated from live parts by double or reinforced insulation	Class III appliance	N/A
22.29	Class II appliances permanently connected to fixed wiring so constructed that the required degree of access to live parts is maintained after installation	Class III appliance	N/A
22.30	Parts serving as supplementary or reinforced insulation fixed so that they cannot be removed without being seriously damaged, or	Class III appliance	N/A
	so constructed that they cannot be replaced in an incorrect position, and so that if they are omitted, the appliance is rendered inoperable or manifestly incomplete		N/A
22.31	Neither clearances nor creepage distances over supplementary and reinforced insulation reduced below values specified in clause 29 as a result of wear	Class III appliance	N/A
	Neither clearances nor creepage distances between live parts and accessible parts reduced below values for supplementary insulation if wires, screws etc. become loose	Class III appliance	N/A
22.32	Supplementary and reinforced insulation constructed or protected against pollution so that clearances or creepage distances are not reduced below the values in clause 29	Class III appliance	N/A
	Supplementary insulation of natural or synthetic rubber resistant to ageing, or arranged and dimensioned so that creepage distances are not reduced below values specified in 29.2	No rubber is used	N/A
	Ceramic material not tightly sintered, similar materials or beads alone not used as supplementary or reinforced insulation		N/A
	Ceramic and similar porous material in which heating conductors are embedded is considered to be basic insulation, not reinforced insulation		N/A
	Oxygen bomb test at 70 °C for 96 h and 16 h at room temperature		N/A
22.33	Conductive liquids that are or may become accessible in normal use and conductive liquids that are in contact with unearthed accessible metal parts are not in direct contact with live parts, or	No liquids	N/A
	unearthed metal parts separated from live parts by basic insulation only		N/A
	Electrodes not used for heating liquids		N/A

Clause	Requirement – Test	Result - Remark	Verdict
	For class II constructions, conductive liquids that are or may become accessible in normal use and conductive liquids that are in contact with unearthed accessible metal parts, not in direct contact with basic or reinforced insulation, unless		N/A
	the reinforced insulation consists of at least 3 layers		N/A
	For class II constructions, conductive liquids which are in contact with live parts, not in direct contact with reinforced insulation, unless	Class III appliance	N/A
	the reinforced insulation consists of at least 3 layers		N/A
	An air layer not used as basic or supplementary insulation in a double insulation system if likely to be bridged by leaking liquid		N/A
22.34	Shafts of operating knobs, handles, levers etc. not live, unless	Class III appliance	P
	the shaft is not accessible when the part is removed		N/A
22.35	For other than class III constructions, handles, levers and knobs, held or actuated in normal use, not becoming live in the event of a failure of basic insulation	Class III appliance	N/A
	Such parts being of metal, and their shafts or fixings are likely to become live in the event of a failure of basic insulation, are either adequately covered by insulation material or their accessible parts are separated from their shafts or fixings by supplementary insulation		N/A
	This requirement does not apply to handles, levers and knobs on stationary appliances and cordless appliances, other than those of electrical components, provided they are reliably connected to an earthing terminal or earthing contact, or separated from live parts by earthed metal		N/A
	Insulating material covering metal handles, levers and knobs withstand the electric strength test of 16.3 for supplementary insulation		N/A
22.36	For appliances other than class III, handles continuously held in the hand in normal use so constructed that when gripped as in normal use, the operators hand is not likely to touch metal parts, unless	Class III appliance	N/A
	they are separated from live parts by double or reinforced insulation		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
22.37	Capacitors in Class II appliances not connected to accessible metal parts and their casings, if of metal, separated from accessible metal parts by supplementary insulation, unless	Class III appliance	N/A
	the capacitors comply with 22.42		N/A
22.38	Capacitors not connected between the contacts of a thermal cut-out	No thermal cut-outs	N/A
22.39	Lamp holders used only for the connection of lamps	No lamp holders	N/A
22.40	Motor-operated appliances and combined appliances intended to be moved while in operation, or having accessible moving parts, fitted with a switch to control the motor. The actuating member of the switch being easily visible and accessible	No moving appliance	N/A
	If the appliance cannot operate continuously, automatically or remotely without giving rise to a hazard, appliances for remote operation being fitted with a switch for stopping the operation. The actuating member of the switch being easily visible and accessible		N/A
22.41	No components, other than lamps, containing mercury		P
22.42	Protective impedance consisting of at least two separate components	Class III appliance	N/A
	Values specified in 8.1.4 not exceeded if any one of the components are short-circuited or open-circuited		N/A
	Resistors checked by the test of 14.1 a) in IEC 60065		N/A
	Capacitors checked by the tests for class Y capacitors in IEC 60384-14		N/A
22.43	Appliances adjustable for different voltages, accidental changing of the setting of the voltage unlikely to occur	Not adjusting appliance in this manner.	N/A
22.44	An appliance is child-appealing if one of the following criteria is present:	No child-appealing appliance	N/A
	- appliance decorated using faces, cartoon like characters, or similar images;		N/A
	- appliance is using shapes representing animals, characters, persons or scale models.		N/A
	An appliance is child-appealing if more than one of the following criteria is present:	No child-appealing appliance	N/A
	- using non functional light;		N/A

Clause	Requirement – Test	Result - Remark	Verdict
	- using non functional sound;		N/A
	- using non functional movement.		N/A
	Child-appealing appliance has <4kg or		N/A
	Normally intended for use at a height less than 850mm, the following conditions shall be met:		N/A
	- The temperature of accessible surface at height less than 850mm shall not exceed limits.		N/A
	- The hazardous moving parts shall not be accessible		N/A
	- Live parts shall not be accessible		N/A
	- Liquid in the appliance shall not exceed 38°C in normal use or		N/A
	get out of the appliance when positioned in different positions.		N/A
	Two independent and sequential actions are needed to access the liquid are considered to meet the requirement.		N/A
	- The requirement 22.12 is applicable to the all accessible parts.		N/A
	The requirement is not applicable to appliance where there is a toy shaped like the appliance.		N/A
22.45	When air is used as reinforced insulation, clearances not reduced below the values specified in 29.1.3 due to deformation as a result of an external force applied to the enclosure		N/A
22.46	For programmable protective electronic circuits used to ensure compliance with the standard, the software contains measures to control the fault/error conditions in table R.1	No such devices	N/A
	Software that contains measures to control the fault/error conditions specified in table R.2 is to be specified in parts 2 for particular constructions or to address specific hazards		N/A
	These requirements are not applicable to software used for functional purpose or compliance with clause 11		N/A
22.47	Appliances connected to the water mains withstand the water pressure expected in normal use	No connection to the water mains	N/A
	No leakage from any part, including any inlet water hose		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
22.48	Appliances connected to the water mains constructed to prevent backsiphonage of non-potable water		N/A
22.49	For remote operation, the duration of operation is to be set before the appliance can be started, unless	No remote operation	N/A
	the appliance switches off automatically or can operate continuously without hazard		N/A
22.50	Controls incorporated in the appliance take priority over controls actuated by remote operation	No remote operations	N/A
22.51	There is a control on the appliance manually adjusted to the setting for remote operation before the appliance can be operated in this mode	No such controls	N/A
	There is a visual indication showing that the appliance is adjusted for remote operation		N/A
	These requirements not necessary on appliances that can operate as follows, without giving rise to a hazard:		N/A
	- continuously, or		N/A
	- automatically, or		N/A
	- remotely		N/A
22.52	Socket-outlets on appliances accessible to the user in accordance with the socket-outlet system used in the country in which the appliance is sold	No socket-outlets	N/A
22.53	Class II appliances and class III appliances that incorporate functionally earthed parts have at least double insulation or reinforced insulation between live parts and the functionally earthed parts	Class III appliance without functional earthing	N/A
22.54	Button cells and batteries designated R1 not accessible without the aid of a tool, unless	No battery	N/A
	the cover of their compartment can only be opened after at least two independent movements have been applied simultaneously		N/A
23	INTERNAL WIRING		P
23.1	Wireways smooth and free from sharp edges		P
	Wires protected against contact with burrs, cooling fins etc.		P
	Wire holes in metal well-rounded or provided with bushings		P
	Wiring effectively prevented from coming into contact with moving parts	No moving parts	N/A

Clause	Requirement – Test	Result - Remark	Verdict
23.2	Beads etc. on live wires cannot change their position, and are not resting on sharp edges		N/A
	Beads inside flexible metal conduits contained within an insulating sleeve		N/A
23.3	Electrical connections and internal conductors movable relatively to each other not exposed to undue stress	No movable conductors	N/A
	Flexible metallic tubes not causing damage to insulation of conductors		N/A
	Open-coil springs not used		N/A
	Adequate insulating lining provided inside a coiled spring, the turns of which touch one another		N/A
	No damage after 10 000 flexings for conductors flexed during normal use, or		N/A
	100 flexings for conductors flexed during user maintenance		N/A
	Electric strength test of 16.3, 1000 V between live parts and accessible metal parts		N/A
	Not more than 10% of the strands of any conductor broken, and		N/A
	not more than 30% for wiring supplying circuits that consume no more than 15W		N/A
23.4	Bare internal wiring sufficiently rigid and fixed	No such conductors	N/A
23.5	The insulation of internal wiring subjected to the supply mains voltage withstanding the electrical stress likely to occur in normal use	No wires under mains voltage	N/A
	Basic insulation electrically equivalent to the basic insulation of cords complying with IEC 60227 or IEC 60245, or		N/A
	no breakdown when a voltage of 2000 V is applied for 15 min between the conductor and metal foil wrapped around the insulation		N/A
	For class II construction, the requirements for supplementary insulation and reinforced insulation apply,		N/A
	except that the sheath of a cord complying with IEC 60227 or IEC 60245 may provide supplementary insulation.		N/A
	A single layer of internal wiring insulation does not provide reinforced insulation		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

23.6	Sleeving used as supplementary insulation on internal wiring retained in position by clamping at both ends, or	Class III appliance	N/A
	be such that it can only be removed by breaking or cutting		N/A
23.7	The colour combination green/yellow only used for earthing conductors	Class III appliance	N/A
23.8	Aluminium wires not used for internal wiring		P
23.9	Stranded conductors not consolidated by soldering where they are subjected to contact pressure, unless		P
	the contact pressure is provided by spring terminals		N/A
23.10	The insulation and sheath of internal wiring, incorporated in external hoses for the connection of an appliance to the water mains, at least equivalent to that of light polyvinyl chloride sheathed flexible cord (60227 IEC 52)		N/A
24	COMPONENTS		P
24.1	Components comply with safety requirements in relevant standards as far as they reasonably apply		P
	List of components	(see appended table)	P
	Motors not required to comply with IEC 60034-1, they are tested as part of the appliance	No motors	N/A
	Relays tested as part of the appliance, or	No relays	N/A
	alternatively acc. to IEC 60730-1, and meeting the additional requirements in IEC 60335-1		N/A
	The requirements of Clause 29 apply between live parts of components and accessible parts of the appliance		N/A
	Components can comply with the requirements for clearances and creepage distances for functional insulation in the relevant component standard		P
	30.2 of this standard apply to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections	No insulating materials	N/A
	Components that have not been previously tested to comply with the IEC standard for the relevant component are tested according to the requirements of 30.2		N/A

Clause	Requirement – Test	Result - Remark	Verdict
	Components that have been previously tested to comply with the resistance to fire requirements in the IEC standard for the relevant component need not be retested provided the specified conditions are met	Considered	P
	If these conditions are not satisfied, the component is tested as part of the appliance.		P
	Two levels of severity specified for appliances for which 30.2.3 is applicable		N/A
	Power electronic converter circuits not required to comply with IEC 62477-1, they are tested as part of the appliance	Considered	N/A
	If components have not been tested and found to comply with relevant IEC standard for the number of cycles specified, they are tested in accordance with 24.1.1 to 24.1.9		N/A
	For components mentioned in 24.1.1 to 24.1.9 no additional tests specified in the relevant component standard are necessary other than those specified in 24.1.1 to 24.1.9		N/A
	Components not tested and found to comply with relevant IEC standard and components not marked or not used in accordance with its marking, tested under the conditions occurring in the appliance	Considered	P
	Lampholders and starterholders that have not being tested and found to comply with the relevant IEC standard, tested as a part of the appliance and additionally according to the gauging and interchangeability requirements of the relevant IEC standard		N/A
	No additional tests specified for nationally standardized plugs such as those detailed in IEC/TR 60083 or connectors complying with the standard sheets of IEC 60320-1 and IEC 60309		N/A
	Plugs and socket-outlets and other connecting devices of interconnection cords shall not be interchangeable with plugs and socket-outlets listed in IEC/TR 60083 or IEC 60906-1 or with connectors and appliance inlets complying with the standard sheets of IEC 60320-1, if direct supply to these parts from the supply mains could give rise to a hazard.	No other plugs and socket-outlets	N/A
	When a standard does not exist for a component, there are no additional tests specified.		N/A
24.1.1	Capacitors likely to be permanently subjected to the supply voltage and used for radio interference suppression or for voltage dividing, comply with IEC 60384-14		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

	If the capacitors have to be tested, they are tested according to Annex F		N/A
24.1.2	Transformers in associated switch mode power supplies comply with Annex BB of IEC 61558-2-16		N/A
	Safety isolating transformers comply with IEC 61558-2-6		N/A
	If they have to be tested, they are tested according to Annex G		N/A
24.1.3	Switches comply with IEC 61058-1, the number of cycles of operation being at least 10 000	ON/OFF switch	P
	If they have to be tested, they are tested according to Annex H		N/A
	If the switch operates a relay or contactor, the complete switching system is subjected to the test		N/A
	If the switch only operates a motor starting relay complying with IEC 60730-2-10 with the number of cycles of a least 10 000 as specified, the complete switching system need not be tested		N/A
24.1.4	Automatic controls comply with IEC 60730-1 with the relevant part 2. The number of cycles of operation being at least:		N/A
	- thermostats:	10 000	N/A
	- temperature limiters:	1 000	N/A
	- self-resetting thermal cut-outs:	300	N/A
	- voltage maintained non-self-resetting thermal cut-outs:	1 000	N/A
	- other non-self-resetting thermal cut-outs:	30	N/A
	- timers:	3 000	N/A
	- energy regulators:	10 000	N/A
	The number of cycles for controls operating during clause 11 need not be declared, if the appliance meets the requirements of this standard when they are short-circuited		N/A
	Thermal motor protectors are tested in combination with their motor under the conditions specified in Annex D		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
	For water valves containing live parts and that are incorporated in external hoses for connection of an appliance to the water mains, the degree of protection declared for subclause 6.5.2 of IEC 60730-2-8 is IPX7		N/A
	Thermal cut-outs of the capillary type comply with the requirements for type 2.K controls in IEC 60730-2-9		N/A
24.1.5	Appliance couplers comply with IEC 60320-1		N/A
	However, for class II appliances classified higher than IPX0, the appliance couplers comply with IEC 60320-2-3		N/A
	Interconnection couplers comply with IEC 60320-2- 2		N/A
24.1.6	Small lamp holders similar to E10 lampholders comply with IEC 60238, the requirements for E10 lampholders being applicable	No such lamp holders	N/A
24.1.7	For remote operation of the appliance via a telecommunication network, the relevant standard for the telecommunication interface circuitry in the appliance is IEC 62151	No connection to the communication network	N/A
24.1.8	The relevant standard for thermal links is IEC 60691	No thermal links	N/A
	Thermal links not complying with IEC 60691 are considered to be an intentionally weak part for the purposes of Clause 19		N/A
24.1.9	Contactors and relays, other than motor starting relays, tested as part of the appliance	No relays or contactors	N/A
	They are also tested in accordance with Clause 17 of IEC 60730-1, the number of cycles of operations in 24.1.4 selected according to the contactor or relay function in the appliance		N/A
24.2	Appliances not fitted with:		N/A
	- switches or automatic controls in flexible cords	No flexible cords	N/A
	- devices causing the protective device in the fixed wiring to operate in the event of a fault in the appliance		N/A
	- thermal cut-outs that can be reset by soldering, unless		N/A
	the solder has a melting point of at least 230 °C		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
24.3	Switches intended for all-pole disconnection of stationary appliances are directly connected to the supply terminals and have a contact separation in all poles, providing full disconnection under overvoltage category III conditions	Class III appliance	N/A
24.4	Plugs and socket-outlets for extra-low voltage circuits and heating elements, not interchangeable with plugs and socket-outlets listed in IEC/TR 60083 or IEC 60906-1 or with connectors and appliance inlets complying with the standard sheets of IEC 60320-1	No such plugs or sockets	N/A
24.5	Capacitors in auxiliary windings of motors marked with their rated voltage and capacitance, and used accordingly		N/A
	Voltage across capacitors in series with a motor winding does not exceed 1,1 times rated voltage, when the appliance is supplied at 1,1 times rated voltage under minimum load		N/A
24.6	Working voltage of motors connected to the supply mains and having basic insulation that is inadequate for the rated voltage of the appliance, not exceeding 42 V		N/A
	In addition, the motors comply with the requirements of Annex I		N/A
24.7	Detachable hose-sets for connection of appliances to the water mains comply with IEC 61770	No detachable hose-sets	N/A
	They are supplied with the appliance		N/A
	Appliances intended to be permanently connected to the water mains not connected by a detachable hose-set		N/A
24.8	Motor running capacitors in appliances for which 30.2.3 is applicable and that are permanently connected in series with a motor winding, not causing a hazard in event of a failure		N/A
	One or more of the following conditions are to be met:		N/A
	- the capacitors are of class P2 according to IEC 60252-1		N/A
	- the capacitors are housed within a metallic or ceramic enclosure		N/A
	- the distance of separation of the outer surface to adjacent non-metallic parts exceeds 50 mm		N/A
	- adjacent non-metallic parts within 50 mm withstand the needle-flame test of Annex E		N/A

Clause	Requirement – Test	Result - Remark	Verdict
	- adjacent non-metallic parts within 50 mm classified as at least V-1 according to IEC 60695-11-10		N/A
25	SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CORDS		P
25.1	Appliance not intended for permanent connection to fixed wiring, means for connection to the supply:		P
	- supply cord fitted with a plug, the current rating and voltage rating of the plug being not less than the corresponding ratings of its associated appliance		N/A
	- an appliance inlet having at least the same degree of protection against moisture as required for the appliance, or	Accordingly	P
	- pins for insertion into socket-outlets		N/A
	Plugs and pins for insertion into socket outlets shell follow the relevant standards sheets in Annex ZG		N/A
25.2	Appliance not provided with more than one means of connection to the supply mains		N/A
	Stationary appliance for multiple supply may be provided with more than one means of connection, provided electric strength test of 1250 V for 1 min between each means of connection causes no breakdown		N/A
25.3	Appliance intended to be permanently connected to fixed wiring provided with one of the following means for connection to the supply mains:		N/A
	- a set of terminals allowing the connection of a flexible cord		N/A
	- a fitted supply cord		N/A
	- a set of supply leads accommodated in a suitable compartment		N/A
	- a set of terminals for the connection of cables of fixed wiring, cross-sectional areas specified in 26.6, and the appliance allows the connection of the supply conductors after the appliance has been fixed to its support		N/A
	- a set of terminals and cable entries, conduit entries, knock-outs or glands, allowing connection of appropriate types of cable or conduit, and the appliance allows the connection of the supply conductors after the appliance has been fixed to its support		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

	For a fixed appliance constructed so that parts can be removed to facilitate easy installation, this requirement is met if it is possible to connect the fixed wiring without difficulty after a part of the appliance has been fixed to its support		N/A
25.4	Cable and conduit entries, rated current of appliance not exceeding 16 A, dimension according to table 10 (mm)	Inlet is used	N/A
	Introduction of conduit or cable does not reduce clearances or creepage distances below values specified in clause 29		N/A
25.5	Method for assembling the supply cord to the appliance:		N/A
	- type X attachment	Appliance has an inlet	N/A
	- type Y attachment		N/A
	- type Z attachment, if allowed in relevant part 2		N/A
	Type X attachment, other than those with a specially prepared cord, not used for flat twin tinsel cords		N/A
	For multi-phase appliances supplied with a supply cord and that are intended to be permanently connected to fixed wiring, the supply cord is assembled to the appliance by type Y attachment	Class III appliance	N/A
25.6	Plugs fitted with only one flexible cord		N/A
25.7	Supply cords, other than for class III appliances, being one of the following types:		N/A
	- rubber sheathed (at least 60245 IEC 53)		N/A
	- polychloroprene sheathed (at least 60245 IEC 57)		N/A
	- polyvinyl chloride sheathed. Not used if they are likely to touch metal parts having a temperature rise exceeding 75 K during the test of clause 11		N/A
	<ul style="list-style-type: none"> light polyvinyl chloride sheathed cord (60227 IEC 52), for appliances not exceeding 3 kg 		N/A
	<ul style="list-style-type: none"> ordinary polyvinyl chloride sheathed cord (60227 IEC 53), for other appliances 		N/A
	- heat resistant polyvinyl chloride sheathed. Not used for type X attachment other than specially prepared cords		N/A
	<ul style="list-style-type: none"> heat-resistant light polyvinyl chloride sheathed cord (60227 IEC 56), for appliances not exceeding 3 kg 		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
	<ul style="list-style-type: none"> heat-resistant polyvinyl chloride sheathed cord (60227 IEC 57), for other appliances 		N/A
	Supply cords for class III appliances adequately insulated		N/A
	Supply cords shall be in accordance to the EN 50525 series.		N/A
	Test with 500 V for 2 min for supply cords of class III appliances that contain live parts		N/A
25.8	Nominal cross-sectional area of supply cords not less than table 11; rated current (A); cross-sectional area (mm ²).....:		N/A
25.9	Supply cords not in contact with sharp points or edges		P
25.10	Supply cord of class I appliances have a green/yellow core for earthing		N/A
	In multi-phase appliances, the colour of the neutral conductor of the supply cord is blue.		N/A
25.11	Conductors of supply cords not consolidated by soldering where they are subject to contact pressure, unless		N/A
	the contact pressure is provided by spring terminals		N/A
25.12	Insulation of the supply cord not damaged when moulding the cord to part of the enclosure		N/A
25.13	Inlet openings so constructed as to prevent damage to the supply cord		P
	If it is not evident that the supply cord can be introduced without risk of damage, a non-detachable lining or bushing complying with 29.3 for supplementary insulation provided		N/A
	If unsheathed supply cord, a similar additional bushing or lining is required, unless the appliance is		N/A
	a class III appliance not containing live parts		P
25.14	Supply cords moved while in operation adequately protected against excessive flexing		N/A
	Flexing test, as described:		N/A
	- applied force (N).....:		N/A
	- number of flexings.....:		N/A
	The test does not result in:		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

	- short-circuit between the conductors, such that the current exceeds a value of twice the rated current		N/A
	- breakage of more than 10% of the strands of any conductor		N/A
	- separation of the conductor from its terminal		N/A
	- loosening of any cord guard		N/A
	- damage to the cord or the cord guard		N/A
	- broken strands piercing the insulation and becoming accessible		N/A
25.15	For appliances with supply cord and appliances to be permanently connected to fixed wiring by a flexible cord, conductors of the supply cord relieved from strain, twisting and abrasion by use of cord anchorage	Appliance has an inlet	N/A
	The cord cannot be pushed into the appliance to such an extent that the cord or internal parts of the appliance can be damaged		N/A
	Pull and torque test of supply cord:		N/A
	- fixed appliances: pull 100 N; torque (not on automatic cord reel) (Nm).....:		N/A
	- other appliances: values shown in table 12: mass (kg); pull (N); torque (not on automatic cord reel) (Nm)		N/A
	Cord not damaged and max. 2 mm displacement of the cord		N/A
25.16	Cord anchorages for type X attachments constructed and located so that:		N/A
	- replacement of the cord is easily possible	Appliance inlet is used	N/A
	- it is clear how the relief from strain and the prevention of twisting are obtained		N/A
	- they are suitable for different types of supply cord		N/A
	- cord cannot touch the clamping screws of cord anchorage if these screws are accessible, unless		N/A
	they are separated from accessible metal parts by supplementary insulation		N/A
	- the cord is not clamped by a metal screw which bears directly on the cord		N/A
	- at least one part of the cord anchorage securely fixed to the appliance, unless		N/A

Clause	Requirement – Test	Result - Remark	Verdict
	it is part of a specially prepared cord		N/A
	- screws which have to be operated when replacing the cord do not fix any other component, unless		N/A
	the appliance becomes inoperative or incomplete or the parts cannot be removed without a tool		N/A
	- if labyrinths can be bypassed the test of 25.15 is nevertheless withstood		N/A
	- for I appliances they are of insulating material or are provided with an insulating lining, unless		N/A
	failure of the insulation of the cord does not make accessible metal parts live		N/A
	- for class II appliances they are of insulating material, or		N/A
	if of metal, they are insulated from accessible metal parts by supplementary insulation		N/A
	After the test of 25.15, under the conditions specified, the conductors have not moved by more than 1 mm in the terminals		N/A
25.17	Adequate cord anchorages for type Y and Z attachment, test with the cord supplied with the appliance	Appliance is not supplied with cord	N/A
25.18	Cord anchorages only accessible with the aid of a tool, or		N/A
	Constructed so that the cord can only be fitted with the aid of a tool		N/A
25.19	Type X attachment, glands not used as cord anchorage in portable appliances		N/A
	Tying the cord into a knot or tying the cord with string not used		N/A
25.20	The conductors of the supply cord for type Y and Z attachment insulated from accessible metal parts		N/A
25.21	Space for supply cord for type X attachment or for connection of fixed wiring constructed:		N/A
	- to permit checking of conductors with respect to correct positioning and connection before fitting any cover		N/A
	- so there is no risk of damage to the conductors or their insulation when fitting the cover		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

	- for portable appliances, so that the uninsulated end of a conductor, if it becomes free from the terminal, prevented from contact with accessible metal parts		N/A
	2 N test to the conductor for portable appliances; no contact with accessible metal parts		N/A
25.22	Appliance inlets:		P
	- live parts not accessible during insertion or removal	Class III appliance	N/A
	Requirement not applicable to appliance inlets complying with IEC 60320-1		P
	- connector can be inserted without difficulty		P
	- the appliance is not supported by the connector		P
	- not for cold conditions if temp. rise of external metal parts exceeds 75 K during clause 11, unless		N/A
	the supply cord is unlikely to touch such metal parts		P
25.23	Interconnection cords comply with the requirements for the supply cord, except that:	No interconnection cords	N/A
	- the cross-sectional area of the conductors is determined on the basis of the maximum current during clause 11		N/A
	- the thickness of the insulation may be reduced		N/A
	If necessary, electric strength test of 16.3		N/A
25.24	Interconnection cords not detachable without the aid of a tool if compliance with this standard is impaired when they are disconnected		N/A
25.25	Dimensions of pins that are inserted into socket-outlets compatible with the dimensions of the relevant socket-outlet.		N/A
	Dimensions of pins and engagement face in accordance with the dimensions given in the national standard as referenced in Annex ZG.		N/A
26	TERMINALS FOR EXTERNAL CONDUCTORS		P
26.1	Appliances provided with terminals or equally effective devices for connection of external conductors	Inlet is provided.	P
	Terminals only accessible after removal of a non-detachable cover, except		N/A

Clause	Requirement – Test	Result - Remark	Verdict
	for class III appliances that do not contain live parts		N/A
	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		N/A
26.2	Appliances with type X attachment and appliances for the connection of cables to fixed wiring provided with terminals in which connections are made by means of screws, nuts or similar devices, unless		N/A
	the connections are soldered		N/A
	Screws and nuts not used to fix any other component, except		N/A
	internal conductors, if so arranged that they are unlikely to be displaced when fitting the supply conductors		N/A
	If soldered connections used, the conductor so positioned or fixed that reliance is not placed on soldering alone, unless		N/A
	barriers provided so that neither clearances nor creepage distances between live parts and other metal parts reduced below the values for supplementary insulation if the conductor becomes free at the soldered joint		N/A
26.3	Terminals for type X attachment and for connection of cables of fixed wiring so constructed that the conductor is clamped between metal surfaces with sufficient contact pressure but without damaging the conductor		N/A
	Terminals fixed so that when the clamping means is tightened or loosened:		N/A
	- the terminal does not become loose		N/A
	- internal wiring is not subjected to stress		N/A
	- neither clearances nor creepage distances are reduced below the values in clause 29		N/A
	Compliance checked by inspection and by the test of subclause 9.6 of IEC 60999-1, the torque applied being equal to two-thirds of the torque specified (Nm)		N/A
	No deep or sharp indentations of the conductors		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

26.4	Terminals for type X attachment, except those having a specially prepared cord and those for the connection of cables of fixed wiring, no special preparation of conductors such as by soldering, use of cable lugs, eyelets or similar, and		N/A
	so constructed or placed that conductors prevented from slipping out when clamping screws or nuts are tightened		N/A
26.5	Terminals for type X attachment so located or shielded that if a wire of a stranded conductor escapes, no risk of accidental connection to other parts that result in a hazard		N/A
	Stranded conductor test, 8 mm insulation removed		N/A
	No contact between live parts and accessible metal parts and,		N/A
	for class II constructions, between live parts and metal parts separated from accessible metal parts by supplementary insulation only		N/A
26.6	Terminals for type X attachment and for connection of cables of fixed wiring suitable for connection of conductors with cross-sectional area according to table 13; rated current (A); nominal cross-sectional area (mm ²).....:		N/A
	If a specially prepared cord is used, terminals need only be suitable for that cord		N/A
26.7	Terminals for type X attachment, except in class III appliances not containing live parts, accessible after removal of a cover or part of the enclosure		N/A
26.8	Terminals for the connection of fixed wiring, including the earthing terminal, located close to each other		N/A
26.9	Terminals of the pillar type constructed and located as specified		N/A
26.10	Terminals with screw clamping and screwless terminals not used for flat twin tinsel cords, unless		N/A
	conductors ends fitted with means suitable for screw terminals		N/A
	Pull test of 5 N to the connection		N/A
26.11	For type Y and Z attachment, soldered, welded, crimped or similar connections may be used		N/A
	For Class II appliances, the conductor so positioned or fixed that reliance is not placed on soldering, welding or crimping alone		N/A

Clause	Requirement – Test	Result - Remark	Verdict
	If soldering, welding or crimping alone used, barriers provided so that clearances and creepage distances between live parts and other metal parts are not reduced below the values for supplementary insulation if the conductor becomes free		N/A
27	PROVISION FOR EARTHING		N/A
27.1	Accessible metal parts of I appliances permanently and reliably connected to an earthing terminal or earthing contact of the appliance inlet	Class III appliance without earthing	N/A
	Earthing terminals and earthing contacts not connected to the neutral terminal		N/A
	Class II and III appliances have no provision for protective earthing		N/A
	Class II appliances and class III appliances can incorporate an earth for functional purposes		N/A
	Safety extra-low voltage circuits not earthed, unless		N/A
	protective extra-low voltage circuits		N/A
27.2	Clamping means of earthing terminals adequately secured against accidental loosening		N/A
	Terminals for the connection of external equipotential bonding conductors allow connection of conductors of 2.5 to 6 mm ² , and		N/A
	- do not provide earthing continuity between different parts of the appliance, and		N/A
	- conductors cannot be loosened without the aid of a tool		N/A
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A
27.3	For a detachable part having an earth connection and being plugged into another part of the appliance, the earth connection is made before and separated after current-carrying connections when removing the part		N/A
	For appliances with supply cords, current-carrying conductors become taut before earthing conductor, if the cord slips out of the cord anchorage		N/A
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
27.4	No risk of corrosion resulting from contact between parts of the earthing terminal and the copper of the earthing conductor or other metal		N/A
	Parts providing earthing continuity, other than parts of a metal frame or enclosure, have adequate resistance to corrosion		N/A
	If of steel, these parts provided with an electroplated coating with a thickness at least 5 µm		N/A
	Adequate protection against rusting of parts of coated or uncoated steel, only intended to provide or transmit contact pressure		N/A
	In the body of the earthing terminal is a part of a frame or enclosure of aluminium or aluminium alloys, precautions taken to avoid risk of corrosion		N/A
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A
27.5	Low resistance of connection between earthing terminal and earthed metal parts		N/A
	This requirement does not apply to connections providing earthing continuity in the protective extra-low voltage circuit, provided the clearances of basic insulation are based on the rated voltage of the appliance		N/A
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A
	Resistance not exceeding 0,1 Ω at the specified low-resistance test (Ω).....:	XXXX Ω	N/A
27.6	The printed conductors of printed circuit boards not used to provide earthing continuity in hand-held appliances.		N/A
	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		N/A
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A
28	SCREWS AND CONNECTIONS		P
28.1	Fixings, electrical connections and connections providing earthing continuity withstand mechanical stresses	Fixing and electrical connections	P

Clause	Requirement – Test	Result - Remark	Verdict
	Screws not of soft metal liable to creep, such as zinc or aluminium		P
	Diameter of screws of insulating material min. 3 mm	No screws of insulating material	N/A
	Screws of insulating material not used for any electrical connections or connections providing earthing continuity		N/A
	Screws used for electrical connections or connections providing earthing continuity screwed into metal		P
	Screws not of insulating material if their replacement by a metal screw can impair supplementary or reinforced insulation		N/A
	For type X attachment, screws to be removed for replacement of supply cord or for user maintenance, not of insulating material if their replacement by a metal screw impairs basic insulation		N/A
	For screws and nuts; torque-test as specified in table 14.....:	(see appended table)	P
28.2	Electrical connections and connections providing earthing continuity constructed so that contact pressure is not transmitted through non-ceramic insulating material liable to shrink or distort, unless		P
	there is resiliency in the metallic parts to compensate for shrinkage or distortion of the insulating material		N/A
	This requirement does not apply to electrical connections in circuits of appliances for which:		N/A
	<ul style="list-style-type: none"> 30.2.2 is applicable and that carry a current not exceeding 0,5 A 		N/A
	<ul style="list-style-type: none"> 30.2.3 is applicable and that carry a current not exceeding 0,2 A 		N/A
28.3	Space-threaded (sheet metal) screws only used for electrical connections if they clamp the parts together	Not used	P
	Thread-cutting (self-tapping) screws and thread rolling screws only used for electrical connections if they generate a full form standard machine screw thread		N/A
	Thread-cutting (self-tapping) screws not used if they are likely to be operated by the user or installer		N/A
	Thread-cutting, thread rolling and space threaded screws may be used in connections providing earthing continuity provided it is not necessary to disturb the connection:		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

	- in normal use,		N/A
	- during user maintenance,		N/A
	- when replacing a supply cord having a type X attachment, or		N/A
	- during installation		N/A
	At least two screws being used for each connection providing earthing continuity, unless		N/A
	the screw forms a thread having a length of at least half the diameter of the screw		N/A
28.4	Screws and nuts that make mechanical connection secured against loosening if they also make electrical connections or connections providing earthing continuity		N/A
	This requirement does not apply to screws in the earthing circuit if at least two screws are used, or		N/A
	if an alternative earthing circuit is provided		N/A
	Rivets for electrical connections or connections providing earthing continuity secured against loosening if the connections are subjected to torsion		N/A
29	CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION		P
	Clearances, creepage distances and solid insulation withstand electrical stress		P
	For coatings used on printed circuits boards to protect the microenvironment (Type 1) or to provide basic insulation (Type 2), Annex J applies		N/A
	The microenvironment is pollution degree 1 under type 1 protection		N/A
	For type 2 protection, the spacing between the conductors before the protection is applied is not less than the values specified in Table 1 of IEC 60664-3		N/A
	These values apply to functional, basic, supplementary and reinforced insulation.....	FI, BI, SI: min. 0,04 mm RI: min. 0,08mm	N/A
29.1	Clearances not less than the values specified in table 16, taking into account the rated impulse voltage for the overvoltage categories of table 15, unless	(see appended table)	N/A
	for basic insulation and functional insulation they comply with the impulse voltage test of clause 14		N/A

Clause	Requirement – Test	Result - Remark	Verdict
	However, if the distances are affected by wear, distortion, movement of the parts or during assembly, the clearances for rated impulse voltages of 1500V and above are increased by 0,5 mm and the impulse voltage test is not applicable		N/A
	For appliances intended for use at altitudes exceeding 2 000 m, the clearances in Table 16 is increased according to the relevant multiplier values in Table A.2 of IEC 60664-1		N/A
	Impulse voltage test is not applicable:		N/A
	- when the microenvironment is pollution degree 3, or		N/A
	- to appliances intended for use at altitudes exceeding 2 000 m		N/A
	Appliances are in overvoltage category II		N/A
	A force of 2 N is applied to bare conductors, other than heating elements		N/A
	A force of 30 N is applied to accessible surfaces		N/A
29.1.1	Clearances of basic insulation withstand the overvoltages, taking into account the rated impulse voltage		N/A
	The values of table 16 or the impulse voltage test of clause 14 are applicable.....:	(see appended table)	N/A
	Clearance at the terminals of tubular sheathed heating elements may be reduced to 1,0 mm if the microenvironment is pollution degree 1		N/A
	Lacquered conductors of windings considered to be bare conductors		N/A
29.1.2	Clearances of supplementary insulation not less than those specified for basic insulation in table 16:		N/A
29.1.3	Clearances of reinforced insulation not less than those specified for basic insulation in table 16, using the next higher step for rated impulse voltage:	(see appended table)	N/A
	For double insulation, with no intermediate conductive part between basic and supplementary insulation, clearances are measured between live parts and the accessible surface, and the insulation system is treated as reinforced insulation		N/A
29.1.4	Clearances for functional insulation are the largest values determined from:		P
	- table 16 based on the rated impulse voltage.....:	(see appended table)	N/A

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Clause	Requirement – Test	Result - Remark	Verdict

	- table F.7a in IEC 60664-1, frequency not exceeding 30 kHz	>0,001 mm	P
	- clause 4 of IEC 60664-4, frequency exceeding 30 kHz		N/A
	If values of table 16 are largest, the impulse voltage test of clause 14 may be applied instead, unless		N/A
	the microenvironment is pollution degree 3, or	Pollution degree 2	N/A
	the distances can be affected by wear, distortion, movement of the parts or during assembly		N/A
	However, clearances are not specified if the appliance complies with clause 19 with the functional insulation short-circuited		P
	Lacquered conductors of windings considered to be bare conductors		N/A
	However, clearances at crossover points are not measured		N/A
	Clearance between surfaces of PTC heating elements may be reduced to 1mm	No PTC heating elements	N/A
29.1.5	Appliances having higher working voltages than rated voltage, clearances for basic insulation are the largest values determined from:		N/A
	- table 16 based on the rated impulse voltage.....:		N/A
	- table F.7a in IEC 60664-1, frequency not exceeding 30 kHz		N/A
	- clause 4 of IEC 60664-4, frequency exceeding 30 kHz		N/A
	If clearances for basic insulation are selected from Table F.7a of IEC 60664-1 or Clause 4 of IEC 60664-4, the clearances of supplementary insulation are not less than those specified for basic insulation		N/A
	If clearances for basic insulation are selected from Table F.7a of IEC 60664-1, the clearances of reinforced insulation dimensioned as specified in Table F.7a are to withstand 160% of the withstand voltage required for basic insulation		N/A
	If clearances for basic insulation are selected from Clause 4 of IEC 60664-4, the clearances of reinforced insulation are twice the value required for basic insulation		N/A

Clause	Requirement – Test	Result - Remark	Verdict
	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 not less than those specified in table 16, but using the next lower step for rated impulse voltage		N/A
	Circuits supplied with a voltage lower than rated voltage, clearances of functional insulation are based on the working voltage used as the rated voltage in table 15		N/A
29.2	Creepage distances not less than those appropriate for the working voltage, taking into account the material group and the pollution degree	(See appended table)	N/A
	Pollution degree 2 applies, unless		N/A
	- precautions taken to protect the insulation; pollution degree 1		N/A
	- insulation subjected to conductive pollution; pollution degree 3		N/A
	A force of 2 N is applied to bare conductors, other than heating elements		N/A
	A force of 30 N is applied to accessible surfaces		N/A
	In a double insulation system, the working voltage for both the basic and supplementary insulation is taken as the working voltage across the complete double insulation system		N/A
29.2.1	Creepage distances of basic insulation not less than specified in table 17	(see appended table)	N/A
	However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from table 2 of IEC 60664-4, these values being used if exceeding the values in table 17		N/A
	Except for pollution degree 1, corresponding creepage distance not less than the minimum specified for the clearance in table 16, if the clearance has been checked according to the test of clause 14		N/A
29.2.2	Creepage distances of supplementary insulation at least those specified for basic insulation in table 17, or	(see appended table)	N/A
	Table 2 of IEC 60664-4, as applicable		N/A
29.2.3	Creepage distances of reinforced insulation at least double those specified for basic insulation in table 17, or	(see appended table)	N/A

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Clause	Requirement – Test	Result - Remark	Verdict

	Table 2 of IEC 60664-4, as applicable		N/A
29.2.4	Creepage distances of functional insulation not less than specified in table 18.....	(see appended table)	P
	However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from table 2 of IEC 60664-4, these values being used if exceeding the values in table 18.....		N/A
	Creepage distances may be reduced if the appliance complies with clause 19 with the functional insulation short-circuited		P
29.3	Supplementary and reinforced insulation have adequate thickness, or a sufficient number of layers, to withstand the electrical stresses		N/A
	Compliance checked:		N/A
	- by measurement, in accordance with 29.3.1, or		N/A
	- by an electric strength test in accordance with 29.3.2, or		N/A
	- for insulation, other than single layer internal wiring insulation, by an assessment of the thermal quality of the material combined with an electric strength test, in accordance with 29.3.3, and		N/A
	for accessible parts of reinforced insulation consisting of a single layer, by measurement in accordance with 29.3.4, or		N/A
	- by an assessment of the thermal quality of the material according to 29.3.3 combined with an electric strength test in accordance with 23.5, for each single layer internal wiring insulation touching each other, or		N/A
	- as specified in subclause 6.3 of IEC 60664-4 for insulation that is subjected to any periodic voltage having a frequency exceeding 30 kHz		N/A
29.3.1	Supplementary insulation have a thickness of at least 1 mm	See 29.3.2	N/A
	Reinforced insulation have a thickness of at least 2 mm	See 29.3.2	N/A
29.3.2	Each layer of material withstand the electric strength test of 16.3 for supplementary insulation		N/A
	Supplementary insulation consist of at least 2 layers		N/A
	Reinforced insulation consist of at least 3 layers		N/A

Clause	Requirement – Test	Result - Remark	Verdict
29.3.3	The insulation is subjected to the dry heat test Bb of IEC 60068-2-2, followed by		N/A
	the electric strength test of 16.3		N/A
	If the temperature rise during the tests of clause 19 does not exceed the value specified in table 3, the test of IEC 60068-2-2 is not carried out		N/A
29.3.4	Thickness of accessible parts of reinforced insulation consisting of a single layer not less than specified in table 19.....:		N/A
30	RESISTANCE TO HEAT AND FIRE		N/A
30.1	External parts of non-metallic material,	No live parts inside of enclosure	N/A
	parts supporting live parts, and		N/A
	parts of thermoplastic material providing supplementary or reinforced insulation		N/A
	sufficiently resistant to heat		N/A
	Ball-pressure test according to IEC 60695-10-2		N/A
	External parts tested at 40 °C plus the maximum temperature rise determined during the test of clause 11, or at 75 °C, whichever is the higher; temperature (°C).....:	(see appended table 30.1)	N/A
	Parts supporting live parts tested at 40°C plus the maximum temperature rise determined during the test of clause 11, or at 125 °C, whichever is the higher; temperature (°C).....:	(see appended table 30.1)	N/A
	Parts of thermoplastic material providing supplementary or reinforced insulation tested at 25 °C plus the maximum temperature rise determined during clause 19, if higher; temperature (°C)	(see appended table 30.1)	N/A
30.2	Parts of non-metallic material resistant to ignition and spread of fire		N/A
	This requirement does not apply to:		N/A
	parts having a mass not exceeding 0,5 g, provided the cumulative effect is unlikely to propagate flames that originate inside the appliance by propagating flames from one part to another, or		N/A
	decorative trims, knobs and other parts unlikely to be ignited or to propagate flames that originate inside the appliance		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

	Compliance checked by the test of 30.2.1, and in addition:		N/A
	- for attended appliances, 30.2.2 applies		N/A
	- for unattended appliances, 30.2.3 applies		N/A
	For appliances for remote operation, 30.2.3 applies		N/A
	For base material of printed circuit boards, 30.2.4 applies		N/A
30.2.1	Parts of non-metallic material subjected to the glow-wire test of IEC 60695-2-11 at 550°C	(see appended table 30.2)	N/A
	However, test not carried out if the material is classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least 550 °C, or		N/A
	the material is classified at least HB40 according to IEC 60695-11-10		N/A
	Parts for which the glow-wire test cannot be carried out need to meet the requirements in ISO 9772 for material classified HBF		N/A
30.2.2	Appliances operated while attended, parts of non-metallic material supporting current-carrying connections, and		N/A
	parts of non-metallic material within a distance of 3mm of such connections,		N/A
	subjected to the glow-wire test of IEC 60695-2-11 with appropriate severity level:		N/A
	- 750 °C, for connections carrying a current exceeding 0,5 A during normal operation		N/A
	- 650 °C, for other connections		N/A
	Glow-wire applied to an interposed shielding material, if relevant		N/A
	The glow-wire test is not carried out on parts of material classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least:		N/A
	- 750 °C, for connections carrying a current exceeding 0,5 A during normal operation		N/A
	- 650 °C, for other connections		N/A
	The glow-wire test is also not carried out on small parts. These parts are to:		N/A
	- comprise material having a glow-wire flammability index of at least 750 °C, or 650 °C as appropriate, or		N/A

Clause	Requirement – Test	Result - Remark	Verdict
	- comply with the needle-flame test of Annex E, or	(N/A
	- comprise material classified as V-0 or V-1 according to IEC 60695-11-10.....:		N/A
	Glow-wire test not applicable to conditions as specified		N/A
30.2.3	Appliances operated while unattended, tested as specified in 30.2.3.1 and 30.2.3.2	.	N/A
	The tests are not applicable to conditions as specified		N/A
30.2.3.1	Parts of non-metallic material supporting connections carrying a current exceeding 0,2 A during normal operation, and		N/A
	parts of non-metallic material, other than small parts, within a distance of 3 mm,		N/A
	subjected to the glow-wire test of IEC 60695-2-11 with a test severity of 850 °C		N/A
	Glow-wire applied to an interposed shielding material, if relevant		N/A
	The glow-wire test is not carried out on parts of material classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least 850 °C		N/A
30.2.3.2	Parts of non-metallic material supporting connections, and		N/A
	parts of non-metallic material within a distance of 3mm,		N/A
	subjected to the glow-wire test of IEC 60695-2-11 with appropriate severity level:		N/A
	- 750 °C, for connections carrying a current exceeding 0,2 A during normal operation		N/A
	- 650 °C, for other connections		N/A
	Glow-wire applied to an interposed shielding material, if relevant		N/A
	However, the glow-wire test of 750 °C or 650 °C as appropriate, is not carried out on parts of material fulfilling both or either of the following classifications:		N/A
	- a glow-wire ignition temperature according to IEC 60695-2-13 of at least:		N/A
	<ul style="list-style-type: none"> 775 °C, for connections carrying a current exceeding 0,2 A during normal operation 		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

	<ul style="list-style-type: none"> 675 °C, for other connections 		N/A
	- a glow-wire flammability index according to IEC 60695-2-12 of at least:		N/A
	- 750 °C, for connections carrying a current exceeding 0,2 A during normal operation		N/A
	- 650 °C, for other connections		N/A
	The glow-wire test is also not carried out on small parts. These parts are to:		N/A
	- comprise material having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or		N/A
	- comprise material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or		N/A
	- comply with the needle-flame test of Annex E, or		N/A
	- comprise material classified as V-0 or V-1 according to IEC 60695-11-10		N/A
	The consequential needle-flame test of Annex E applied to non-metallic parts that encroach within the vertical cylinder placed above the centre of the connection zone and on top of the non-metallic parts supporting current-carrying connections, and parts of non-metallic material within a distance of 3 mm of such connections if these parts are those:		N/A
	- parts that withstood the glow-wire test of IEC 60695-2-11 of 750 °C or 650 °C as appropriate, but produce a flame that persist longer than 2 s, or		N/A
	- parts that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or		N/A
	- small parts, that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or		N/A
	- small parts for which the needle-flame test of Annex E was applied, or		N/A
	- small parts for which a material classification of V-0 or V-1 was applied		N/A
	However, the consequential needle-flame test is not carried out on non-metallic parts, including small parts, within the cylinder that are:		N/A
	- parts having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or		N/A
	- parts comprising material classified as V-0 or V-1 according to IEC 60695-11-10, or		N/A

Clause	Requirement – Test	Result - Remark	Verdict
	- parts shielded by a flame barrier that meets the needle-flame test of Annex E or that comprises material classified as V-0 or V-1 according to IEC 60695-11-10		N/A
30.2.4	Base material of printed circuit boards subjected to the needle-flame test of Annex E		N/A
	Test not applicable to conditions as specified		P
31	RESISTANCE TO RUSTING		P
	Relevant ferrous parts adequately protected against rusting		P
	Tests specified in part 2 when necessary		N/A
32	RADIATION, TOXICITY AND SIMILAR HAZARDS		P
	Appliance does not emit harmful radiation or present a toxic or similar hazard due to their operation in normal use		P
	Appliances are tested according following standards:		P
	- EN 2233:2008 for products without radio function;	0,2%	P
	- EN IEC 62311 for product with radio function.		N/A
A	ANNEX A (INFORMATIVE) ROUTINE TESTS		N/A
	Description of routine tests to be carried out by the manufacturer		N/A
B	ANNEX B (NORMATIVE) APPLIANCES POWERED BY RECHARGEABLE BATTERIES THAT ARE RECHARGED IN THE APPLIANCE		N/A
	The following modifications to this standard are applicable for appliances powered by batteries that are recharged in the appliance	No rechargeable batteries	N/A
	Three forms of construction covered:		N/A
	a) Appliance supplied directly from the supply mains or a renewable energy source, the battery charging circuitry and other supply unit circuitry incorporated within the appliance		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

	b) The part of the appliance incorporating the battery is supplied from the supply mains or a renewable energy source, via a detachable supply unit. The battery charging circuitry is incorporated within the part of the appliance containing the battery		N/A
	c) The part of the appliance incorporating the battery is supplied from the supply mains or a renewable energy source, via a detachable supply unit. The battery charging circuitry is incorporated within the detachable supply unit		N/A
3.1.9	Appliance operated under the following conditions:		N/A
	- the appliance, supplied by its fully charged battery, operated as specified in relevant part 2		N/A
	- the battery is charged, the battery being initially discharged to such an extent that the appliance cannot operate		N/A
	-if possible, the appliance is supplied from the supply mains through its battery charger, the battery being initially discharged to such an extent that the appliance cannot operate. The appliance is operated as specified in relevant part 2		N/A
	- if the appliance incorporates inductive coupling between two parts that are detachable from each other, the appliance is supplied from the supply mains with the detachable part removed		N/A
3.6.2	Part to be removed in order to discard the battery is not considered to be detachable		N/A
5.B.101	Appliances supplied from the supply mains tested as specified for motor-operated appliances		N/A
7.1	Battery compartment for batteries intended to be replaced by the user, marked with battery voltage (V) and polarity of the terminals.....:		N/A
	The positive terminal indicated by symbol IEC 60417-5005 and the negative terminal by symbol IEC 60417-5006		N/A
	Appliances intending to be supplied from a detachable supply unit marked with symbol IEC 60417-6181 and its type reference along with symbol ISO 7000-0790 (2004-01), or		N/A
	use only with <model designation> supply unit		N/A
7.6	Additional symbols		N/A
7.12	The instructions give information regarding charging		N/A

Clause	Requirement – Test	Result - Remark	Verdict
	The instructions for appliances incorporating batteries intended to be replaced by the user includes required information		N/A
	Details about how to remove batteries containing materials hazardous to the environment given		N/A
	For appliances intending to be supplied from a detachable supply unit for the purposes of recharging the battery, the type reference of the detachable supply unit is stated along with the following:		N/A
	WARNING: For the purposes of recharging the battery, only use the detachable supply unit provided with this appliance		N/A
	If the symbol for detachable supply unit is used, its meaning is explained		N/A
7.15	Markings placed on the part of the appliance connected to the supply mains		N/A
	The type reference of the detachable supply unit is placed in close proximity to the symbol		N/A
8.2	Appliances having batteries that according to the instruction may be replaced by the user need only have basic insulation between live parts and the inner surface of the battery compartment		N/A
	If the appliance can be operated without batteries, double or reinforced insulation required		N/A
11.7	The battery is charged for the period stated in the instructions or 24 h		N/A
11.8	Temperature rise of the battery surface does not exceed the limit in the battery manufacturer's specification; measured (K); limit (K).....		N/A
	If no limit specified, the temperature rise does not exceed 20 K; measured (K)		N/A
19.1	Appliances subjected to tests of 19.B.101, 19.B.102 and 19.B.103		N/A
19.10	Not applicable		N/A
19.B.101	Appliances supplied at rated voltage for 168 h, the battery being continually charged		N/A
19.B.102	For appliances having batteries that can be removed without the aid of a tool, short-circuit of the terminals of the battery, the battery being fully charged,		N/A
19.B.103	Appliances having batteries replaceable by the user supplied at rated voltage under normal operation with the battery removed or in any position allowed by the construction		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

19.13	The battery does not rupture or ignite		N/A
21.B.101	Appliances having pins for insertion into socket-outlets have adequate mechanical strength		N/A
	Part of the appliance incorporating the pins subjected to the free fall test, procedure 2, of IEC 60068-2-31, the number of falls being:		N/A
	- 100, if the mass of the part does not exceed 250 g (g)		N/A
	- 50, if the mass of the part exceeds 250 g		N/A
	After the test, the requirements of 8.1, 15.1.1, 16.3 and clause 29 are met		N/A
22.3	Appliances having pins for insertion into socket-outlets tested as fully assembled as possible		N/A
25.13	An additional lining or bushing not required for interconnection cords in class III appliances or class III constructions operating at safety extra-low voltage not containing live parts		N/A
30.2	For parts of the appliance connected to the supply mains during the charging period, 30.2.3 applies		N/A
	For other parts, 30.2.2 applies		N/A
C	ANNEX C (NORMATIVE) AGEING TEST ON MOTORS		N/A
	Tests, as described, carried out when doubt with regard to the temperature classification of the insulation of a motor winding		N/A
	Test conditions as specified		N/A
D	ANNEX D (NORMATIVE) THERMAL MOTOR PROTECTORS		N/A
	Applicable to appliances having motors that incorporate thermal motor protectors necessary for compliance with the standard	No thermal motor protectors	N/A
	Test conditions as specified		N/A
E	ANNEX E (NORMATIVE) NEEDLE-FLAME TEST		N/A
	Needle-flame test carried out in accordance with IEC 60695-11-5, with the following modifications:		N/A
7	Severities		N/A
	The duration of application of the test flame is 30 s ± 1 s		N/A
9	Test procedure		N/A

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9.1	The specimen so arranged that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1		N/A
9.2	The first paragraph does not apply		N/A
	If possible, the flame is applied at least 10 mm from a corner		N/A
9.3	The test is carried out on one specimen		N/A
	If the specimen does not withstand the test, the test may be repeated on two additional specimens, both withstanding the test		N/A
11	Evaluation of test results		N/A
	The duration of burning not exceeding 30 s		N/A
	However, for printed circuit boards, the duration of burning not exceeding 15 s		N/A
F	ANNEX F (NORMATIVE) CAPACITORS		N/A
	Capacitors likely to be permanently subjected to the supply voltage, and used for radio interference suppression or voltage dividing, comply with the following clauses of IEC 60384-14, with the following modifications:		N/A
1.5	Terms and definitions		N/A
1.5.3	Class X capacitors tested according to subclass X2	No such capacitors used	N/A
1.5.4	This subclause is applicable		N/A
1.6	Marking		N/A
	Items a) and b) are applicable		N/A
3.4	Approval testing		N/A
3.4.3.2	Table 3 is applicable as described		N/A
4.1	Visual examination and check of dimensions		N/A
	This subclause is applicable		N/A
4.2	Electrical tests		N/A
4.2.1	This subclause is applicable		N/A
4.2.5	This subclause is applicable		N/A
4.2.5.2	Only table 11 is applicable		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

	Values for test A apply		N/A
	However, for capacitors in heating appliances the values for test B or C apply		N/A
4.12	Damp heat, steady state		N/A
	This subclause is applicable		N/A
	Only insulation resistance and voltage proof are checked		N/A
4.13	Impulse voltage		N/A
	This subclause is applicable		N/A
4.14	Endurance		N/A
	Subclauses 4.14.1, 4.14.3, 4.14.4 and 4.14.7 are applicable		N/A
4.14.7	Only insulation resistance and voltage proof are checked		N/A
	No visible damage		N/A
4.17	Passive flammability test		N/A
	This subclause is applicable		N/A
4.18	Active flammability test		N/A
	This subclause is applicable		N/A
G	ANNEX G (NORMATIVE) SAFETY ISOLATING TRANSFORMERS		N/A
	The following modifications to this standard are applicable for safety isolating transformers:		N/A
7	Marking and instructions		N/A
7.1	Transformers for specific use marked with:		N/A
	-name, trademark or identification mark of the manufacturer or responsible vendor.....:	No transformers	N/A
	-model or type reference		N/A
17	Overload protection of transformers and associated circuits		N/A
	Fail-safe transformers comply with subclause 15.5 of IEC 61558-1		N/A
22	Construction		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

	Subclauses 19.1 and 19.1.2 of IEC 61558-2-6 are applicable		N/A
29	Clearances, creepage distances and solid insulation		N/A
29.1, 29.2, 29.3	The distances specified in items 2a, 2c and 3 in table 13 of IEC 61558-1 apply		N/A
	For insulated winding wires complying with subclause 19.12.3 of IEC 61558-1 there are no requirements for clearances or creepage distances		N/A
	For windings providing reinforced insulation, the distance specified in item 2c of table 13 of IEC 61558-1 is not assessed		N/A
	For safety isolating transformers subjected to periodic voltages with a frequency exceeding 30 kHz, the clearances, creepage distances and solid insulation values specified in IEC 60664-4 are applicable, if greater than the values specified in items 2a, 2c and 3 in table 13 of IEC 61558-1		N/A
H	ANNEX H (NORMATIVE) SWITCHES		N/A
	Switches comply with the following clauses of IEC 61058-1, as modified below:		N/A
	The tests of IEC 61058-1 carried out under the conditions occurring in the appliance		N/A
	Before being tested, switches are operated 20 times without load		N/A
8	Marking and documentation		N/A
	Switches are not required to be marked		N/A
	However, a switch that can be tested separately from the appliance marked with the manufacturer's name or trade mark and the type reference		N/A
13	Mechanism		N/A
	The tests may be carried out on a separate sample		N/A
15	Insulation resistance and dielectric strength		N/A
15.1	Not applicable		N/A
15.2	Not applicable		N/A
15.3	Applicable for full disconnection and micro-disconnection		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

17	Endurance		N/A
	Compliance is checked on three separate appliances or switches		N/A
	For 17.2.4.4, the number of cycles declared according to 7.1.4 is 10 000, unless		N/A
	otherwise specified in 24.1.3 of the relevant part 2 of IEC 60335.....:		N/A
	Switches for operation under no load and which can be operated only by a tool, and		N/A
	switches operated by hand that are interlocked so that they cannot be operated under load,		N/A
	are not subjected to the tests		N/A
	However, switches without this interlock are subjected to the test of 17.2.4.4 for 100 cycles of operation		N/A
	Subclauses 17.2.2 and 17.2.5.2 not applicable		N/A
	The ambient temperature during the test is that occurring in the appliance during the test of Clause 11 in IEC 60335-1		N/A
	The temperature rise of the terminals not more than 30 K above the temperature rise measured in clause 11 of IEC 60335-1 (K)		N/A
20	Clearances, creepage distances, solid insulation and coatings of rigid printed board assemblies		N/A
	Clause 20 is applicable to clearances across full disconnection and micro-disconnection		N/A
	It is also applicable to creepage distances for functional insulation, across full disconnection and micro-disconnection, as stated in Table 24		N/A
I	ANNEX I (NORMATIVE)		N/A
	MOTORS HAVING BASIC INSULATION THAT IS INADEQUATE FOR THE RATED VOLTAGE OF THE APPLIANCE		N/A
	The following modifications to this standard are applicable for motors having basic insulation that is inadequate for the rated voltage of the appliance:		N/A
8	Protection against access to live parts		N/A
8.1	Metal parts of the motor are considered to be bare live parts	No motors	N/A
11	Heating		N/A

Clause	Requirement – Test	Result - Remark	Verdict
11.3	The temperature rise of the body of the motor is determined instead of the temperature rise of the windings		N/A
11.8	The temperature rise of the body of the motor, where in contact with insulating material, not exceeding values in table 3 for the relevant insulating material		N/A
16	Leakage current and electric strength		N/A
16.3	Insulation between live parts of the motor and its other metal parts is not subjected to the test		N/A
19	Abnormal operation		N/A
19.1	The tests of 19.7 to 19.9 are not carried out		N/A
19.I.101	Appliance operated at rated voltage with each of the following fault conditions:		N/A
	- short circuit of the terminals of the motor, including any capacitor incorporated in the motor circuit		N/A
	- short circuit of each diode of the rectifier		N/A
	- open circuit of the supply to the motor		N/A
	- open circuit of any parallel resistor, the motor being in operation		N/A
	Only one fault simulated at a time, the tests carried out consecutively		N/A
22	Construction		N/A
22.I.101	For class I appliances incorporating a motor supplied by a rectifier circuit, the d.c. circuit being insulated from accessible parts of the appliance by double or reinforced insulation		N/A
	Compliance checked by the tests specified for double and reinforced insulation		N/A
J	ANNEX J (NORMATIVE) COATED PRINTED CIRCUIT BOARDS		N/A
	Testing of protective coatings of printed circuit boards carried out in accordance with IEC 60664-3 with the following modifications:		N/A
5.7	Conditioning of the test specimens		N/A
	When production samples are used, three samples of the printed circuit board are tested		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

5.7.1	Cold		N/A
	The test is carried out at -25 °C		N/A
5.7.3	Rapid change of temperature		N/A
	Severity 1 is specified		N/A
5.9	Additional tests		N/A
	This subclause is not applicable		N/A
K	ANNEX K (NORMATIVE) OVERVOLTAGE CATEGORIES		N/A
	The information on overvoltage categories is extracted from IEC 60664-1		N/A
	Overvoltage category is a numeral defining a transient overvoltage condition	Considered	N/A
	Equipment of overvoltage category IV is for use at the origin of the installation		N/A
	Equipment of overvoltage category III is equipment in fixed installations and for cases where the reliability and the availability of the equipment is subject to special requirements		N/A
	Equipment of overvoltage category II is energy consuming equipment to be supplied from the fixed installation		N/A
	If such equipment is subjected to special requirements with regard to reliability and availability, overvoltage category III applies		N/A
	Equipment of overvoltage category I is equipment for connection to circuits in which measures are taken to limit transient overvoltages to an appropriate low level		N/A
L	ANNEX L (INFORMATIVE) GUIDANCE FOR THE MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES		P
	Information for the determination of clearances and creepage distances		P
M	ANNEX M (NORMATIVE) POLLUTION DEGREE		P
	The information on pollution degrees is extracted from IEC 60664-1		P
	Pollution		P

Clause	Requirement – Test	Result - Remark	Verdict
	The microenvironment determines the effect of pollution on the insulation, taking into account the macroenvironment		P
	Means may be provided to reduce pollution at the insulation by effective enclosures or similar		N/A
	Minimum clearances specified where pollution may be present in the microenvironment		P
	Degrees of pollution in the microenvironment		P
	For evaluating creepage distances, the following degrees of pollution in the microenvironment are established:		P
	- pollution degree 1: no pollution or only dry, non-conductive pollution occurs. The pollution has no influence		N/A
	- pollution degree 2: only non-conductive pollution occurs, except that occasionally a temporary conductivity caused by condensation is to be expected		P
	- pollution degree 3: conductive pollution occurs or dry non-conductive pollution occurs that becomes conductive due to condensation that is to be expected		N/A
	- pollution degree 4: the pollution generates persistent conductivity caused by conductive dust or by rain or snow		N/A
N	ANNEX N (NORMATIVE) PROOF TRACKING TEST		N/A
	The proof tracking test is carried out in accordance with IEC 60112 with the following modifications:		N/A
7	Test apparatus		N/A
7.3	Test solutions		N/A
	Test solution A is used		N/A
10	Determination of proof tracking index (PTI)		N/A
10.1	Procedure		N/A
	The proof voltage is 100V, 175V, 400V or 600V ...:		N/A
	The test is carried out on five specimens		N/A
	In case of doubt, additional test with proof voltage reduced by 25V, the number of drops increased to 100		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

10.2	Report		N/A
	The report states if the PTI value was based on a test using 100 drops with a test voltage of (PTI-25) V		N/A
O	ANNEX O (INFORMATIVE) SELECTION AND SEQUENCE OF THE TESTS OF CLAUSE 30		N/A
	Description of tests for determination of resistance to heat and fire		N/A
P	ANNEX P (INFORMATIVE) GUIDANCE FOR THE APPLICATION OF THIS STANDARD TO APPLIANCES USED IN WARM DAMP EQUABLE CLIMATES		N/A
	The following modifications may also be applied to class 1 appliances having a rated voltage exceeding 150V, intended to be used in countries having a warm damp equable climate and that are marked WdaE, if liable to be connected to a supply mains that excludes the protective earthing conductor		N/A
5.7	The ambient temperature for the tests of clauses 11 and 13 is 40 +3/0 °C		N/A
7.1	The appliance marked with the letters WDaE		N/A
7.12	The instructions state that the appliance is to be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30 mA		N/A
	The instructions state that the appliance is considered to be suitable for use in countries having a warm damp equable climate, but may also be used in other countries		N/A
11.8	The values of Table 3 are reduced by 15 K		N/A
13.2	The leakage current for class I appliances not exceeding 0,5 mA		N/A
15.3	The value of t is 37 °C		N/A
16.2	The leakage current for class I appliances not exceeding 0,5 mA (mA):		N/A
19.13	The leakage current test of 16.2 is applied in addition to the electric strength test of 16.3		N/A
Q	ANNEX Q (INFORMATIVE) SEQUENCE OF TESTS FOR THE EVALUATION OF ELECTRONIC CIRCUITS		N/A
	Description of tests for appliances incorporating electronic circuits		N/A

Clause	Requirement – Test	Result - Remark	Verdict
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R	ANNEX R (NORMATIVE) SOFTWARE EVALUATION		N/A
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2 validated in accordance with the requirements of this annex	No software	N/A
R.1	Programmable electronic circuits using software		N/A
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2 constructed so that the software does not impair compliance with the requirements of this standard		N/A
R.2	Requirements for the architecture		N/A
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2 use measures to control and avoid software-related faults/errors in safety-related data and safety-related segments of the software		N/A
R.2.1.1	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.2 have one of the following structures:		N/A
	- single channel with periodic self-test and monitoring		N/A
	- dual channel (homogenous) with comparison		N/A
	- dual channel (diverse) with comparison		N/A
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 have one of the following structures:		N/A
	- single channel with functional test		N/A
	- single channel with periodic self-test		N/A
	- dual channel without comparison		N/A
R.2.2	Measures to control faults/errors		N/A
R.2.2.1	When redundant memory with comparison is provided on two areas of the same component, the data in one area is stored in a different format from that in the other area		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
R.2.2.2	Programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.2 and that use dual channel structures with comparison, have additional fault/error detection means for any fault/errors not detected by the comparison		N/A
R.2.2.3	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, means are provided for the recognition and control of errors in transmissions to external safety-related data paths		N/A
R.2.2.4	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, the programmable electronic circuits incorporate measures to address the fault/errors in safety-related segments and data indicated in table R.1 and R.2 as appropriate		N/A
R.2.2.5	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, detection of a fault/error occur before compliance with clause 19 is impaired		N/A
R.2.2.6	The software is referenced to relevant parts of the operating sequence and the associated hardware functions		N/A
R.2.2.7	Labels used for memory locations are unique		N/A
R.2.2.8	The software is protected from user alteration of safety-related segments and data		N/A
R.2.2.9	Software and safety-related hardware under its control is initialized and terminates before compliance with clause 19 is impaired		N/A
R.3	Measures to avoid errors		N/A
R.3.1	General		N/A
	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, the following measures to avoid systematic fault in the software are applied		N/A
	Software that incorporates measures used to control the fault/error conditions specified in table R.2 is inherently acceptable for software required to control the fault/error conditions specified in table R.1		N/A
R.3.2	Specification		N/A

Clause	Requirement – Test	Result - Remark	Verdict
R.3.2.1	Software safety requirements:		N/A
	The specification of the software safety requirements includes the descriptions listed		N/A
R.3.2.2	Software architecture		N/A
R.3.2.2.1	The specification of the software architecture includes the aspects listed <ul style="list-style-type: none"> - techniques and measures to control software faults/errors (refer to R.2.2); - interactions between hardware and software; - partitioning into modules and their allocation to the specified safety functions; - hierarchy and call structure of the modules (control flow); - interrupt handling; - data flow and restrictions on data access; - architecture and storage of data; - time-based dependencies of sequences and data 		N/A
R.3.2.2.2	The architecture specification is validated against the specification of the software safety requirements by static analysis		N/A
R.3.2.3	Module design and coding		N/A
R.3.2.3.1	Based on the architecture design, software is suitably refined into modules		N/A
	Software module design and coding is implemented in a way that is traceable to the software architecture and requirements		N/A
R.3.2.3.2	Software code is structured		N/A
R.3.2.3.3	Coded software is validated against the module specification by static analysis		N/A
	The module specification is validated against the architecture specification by static analysis		N/A
R.3.3.3	Software validation		N/A
	The software is validated with reference to the requirements of the software safety requirements specification		N/A
	Compliance is checked by simulation of:		N/A

Clause	Requirement – Test	Result - Remark	Verdict
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	- input signals present during normal operation		N/A
	- anticipated occurrences		N/A
	- undesired conditions requiring system action		N/A

TABLE R.1^e – GENERAL FAULT/ERROR CONDITIONS

Component a	Fault/error	Acceptable measures ^{b, c}	Definitions	Document reference for applied measure	Document reference for applied test	Ver- dict
1 CPU 1.1 Registers	Stuck at	Functional test, or periodic self-test using either: - static memory test, or - word protection with single bit redundancy	H.2.16.5 H.2.16.6 H.2.19.6 H.2.19.8.2			
1.2 VOID						
1.3 Programme counter	Stuck at	Functional test, or Periodic self-test, or Independent time-slot monitoring, or Logical monitoring of the programme sequence	H.2.16.5 H.2.16.6 H.2.18.10.4 H.2.18.10.2			
2 Interrupt handling and execution	No interrupt or too frequent interrupt	Functional test, or time-slot monitoring	H.2.16.5 H.2.18.10.4			

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Clause	Requirement – Test		Result - Remark		Verdict	
3 Clock	Wrong frequency (for quartz synchronized clock: harmonics/sub-harmonics only)	Frequency monitoring, or time slot monitoring	H.2.18.10.1 H.2.18.10.4			
4. Memory 4.1 Invariable memory	All single bit faults	Periodic modified checksum, or multiple checksum, or word protection with single bit redundancy	H.2.19.3.1 H.2.19.3.2 H.2.19.8.2			
4.2 Variable memory	DC fault	Periodic static memory test, or word protection with single bit redundancy	H.2.19.6 H.2.19.8.2			
4.3 Addressing (relevant to variable and invariable memory)	Stuck at	Word protection with single bit redundancy including the address	H.2.19.8.2			
5 Internal data path	Stuck at	Word protection with single bit redundancy	H.2.19.8.2			
5.1 VOID						
5.2 Addressing	Wrong address	Word protection with single bit redundancy including the address	H.2.19.8.2			

Clause	Requirement – Test	Result - Remark	Verdict
7.1 VOID			
7.2 Analog I/O			
7.2.1 A/D and D/A- converter	Fault conditions specified in 19.11.2	Plausibility check	H.2.18.13
7.2.2 Analog multiplexer	Wrong addressing	Plausibility check	H.2.18.13
8 VOID			
9 Custom chips ^d e.g. ASIC, GAL, gate array	Any output outside the static and dynamic functional specificatio n	Periodic self-test	H.2.16.6
NOTE A Stuck-at fault model denotes a fault model representing an open circuit or a non-varying signal level. A DC fault model denotes a stuck-at fault model incorporating short circuit between signal lines.			
a) For fault/error assessment, some components are divided into their sub-functions. b) For each sub-function in the table, the Table R.2 measure will cover the software fault/error. c) Where more than one measure is given for a sub-function, these are alternatives. d) To be divided as necessary by the manufacturer into sub-functions. e) Table R.1 is applied according to the requirements of R.1 to R.2.2.9 inclusive.			
S	ANNEX S (NORMATIVE) BATTERY OPERATED APPLIANCES POWERED BY BATTERIES THAT ARE NON-RECHARGEABLE OR NOT RECHARGED IN THE APPLIANCE		N/A
	The following modifications to this standard are applicable for battery-operated appliances where the batteries are either non-rechargeable (primary batteries), or		N/A
	rechargeable batteries (secondary batteries) that are not recharged in the appliance		N/A
5.8.1	If the supply terminals for the connection of the battery have no indication of polarity, the more unfavourable polarity is applied		N/A
5.S.101	Appliances intended for use with a battery box are tested with the battery box supplied with the appliance or with the battery box recommended in the instructions		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
5.S.102	Appliances are tested as motor-operated appliances.		N/A
7.1	Appliances marked with the battery voltage (V) and the polarity of the terminals, unless		N/A
	the polarity is irrelevant		N/A
	Appliances also marked with:		N/A
	– name, trade mark or identification mark of the manufacturer or responsible vendor.....:		N/A
	– model or type reference		N/A
	– IP number according to degree of protection against ingress of water, other than IPX0:		N/A
	– type reference of battery or batteries.....:		N/A
	If relevant, the positive terminal is indicated by the symbol IEC 60417-5005 and the negative terminal by the symbol IEC 60417-5006		N/A
	If appliances use more than one battery, they are marked to indicate correct polarity connection of the batteries		N/A
7.6	Additional symbols		N/A
7.12	The instructions contain the following, as applicable:		N/A
	– the types of batteries that may be used.....:		N/A
	– how to remove and insert the batteries		N/A
	– non-rechargeable batteries are not to be recharged		N/A
	– rechargeable batteries are to be removed from the appliance before being charged		N/A
	– different types of batteries or new and used batteries are not to be mixed		N/A
	– batteries are to be inserted with the correct polarity		N/A
	– exhausted batteries are to be removed from the appliance and safely disposed of		N/A
	– if the appliance is to be stored unused for a long period, the batteries are removed		N/A
	– the supply terminals are not to be short-circuited		N/A
11.5	Appliances are supplied with the most unfavourable supply voltage between		N/A

Clause	Requirement – Test	Result - Remark	Verdict
	– 0,55 and 1,0 times the battery voltage, if the appliance can be used with non-rechargeable batteries		N/A
	– 0,75 and 1,0 times battery voltage, if the appliance is designed for use with rechargeable batteries only		N/A
	The values specified in Table S.101 for the internal resistance per cell of the battery is taken into account		N/A
19.1	The tests are carried out with the battery fully charged unless otherwise specified		N/A
19.13	The battery does not rupture or ignite		N/A
19.S.101	Appliances are supplied with the voltage specified in 11.5. The supply terminals having an indication of polarity are connected to the opposite polarity, unless		N/A
	such a connection is unlikely to occur due to the construction of the appliance		N/A
19.S.102	For appliances with provision for multiple batteries, one or more of the batteries are reversed and the appliance is operated, if reversal of batteries is allowed by the construction		N/A
25.5	The flexible leads or flexible cord used to connect an external battery or battery box in is connected to the appliance by a type X attachment		N/A
25.13	This requirement is not applicable to the flexible leads or flexible cord connecting external batteries or a battery box with an appliance		N/A
25.S.101	Appliances have suitable means for connection of the battery. If the type of battery is marked on the appliance, the means of connection is suitable for this type of battery		N/A
26.5	Terminal devices in an appliance for the connection of the flexible leads or flexible cord connecting an external battery or battery box are so located or shielded that there is no risk of accidental connection between supply terminals		N/A
30.2.3.2	There is no battery in the area of the vertical cylinder used for the consequential needle flame test, unless		N/A
	the battery is shielded by a barrier that meets the needle flame test of Annex E, or		N/A
	that comprises material classified as V-0 or V-1 according to IEC 60695-11-10		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

ZC	ANNEX ZC (Normative) SPECIAL NATIONAL CONDITIONS	N/A
7.12	Denmark For single-phase appliance >13A and supplied with plug in accordance to DS 60884-2-D1 warning must be: Inden apparatet tilsluttes skal det sikres at installationen er egnet til apparater med en mærkestrøm der overstiger 13 A. I tvivlstilfælde bør en autoriseret el-installatør kontaktes.	N/A
7.12.8	Denmark, Sweden, Norway and Finland The maximum inlet water pressure shall be at least 1,0 MPa	N/A
19.5	Norway The second paragraph of this subclause, that deals with single-phase, permanently connected Class I appliance heating heating elements, is not applicable due the supply system	N/A
22.47	Denmark The maximum inlet water pressure shall be at least 1,0 MPa	N/A
25.8	Ireland, United Kingdom and Cyprus In the table, replace line ">10A and ≤ 16A" with: > 10 and ≤ 13 1,25 (1,0)b > 13 and ≤ 16 1,5 (1,0)b	N/A

.....

10.1	TABLE: Power input deviation					N/A
Input deviation of/at:	P rated (W)	P measured (W)	Δ P	Required Δ P	Remark	
Supplementary information:						

10.2	TABLE: Current deviation					P
Current deviation of/at:	I rated (A)	I measured (A)	Δ I	Required Δ I	Remark	
5Vdc	0,4	0,42	-5%	+/-10%	P	
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Supplementary information:						

Clause	Requirement – Test	Result - Remark	Verdict
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11.8	TABLE: Heating test		P
	Test voltage (V)..... :	5,3Vac	—
	Ambient (°C)..... :	22,0	—
Thermocouple locations:		Max. temperature rise measured, Δ T (K)	Max. temperature rise limit, Δ T (K)
PCB		9,1	120
PCB		7,3	120
Line filter choke		14,1	75
PVC insulation of wire		1,1	50
Inlet		2,5	60
Switch		2,2	60
Plastic touching surface		4,2	60
Wooden support		0,6	60
Supplementary information:			
Temperature of the windings are measured with thermocouple. 10K is added to the measured winding temperature value.			

11.8	TABLE: Heating test, resistance method					N/A
	Test voltage (V)..... :					—
	Ambient, t1 (°C)..... :					—
	Ambient, t2 (°C)..... :					—
Temperature rise of winding:	R1 (Ω)	R2 (Ω)	Δ T (K)	Max. Δ T (K)	Insulation class	
Supplementary information:						

13.2	TABLE: Leakage current		N/A
	Heating appliances: 1.15 x rated input (W)....:		—
	Motor-operated and combined appliances: 1.06 x rated voltage (V).....:		—

Clause	Requirement – Test	Result - Remark	Verdict
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Leakage current between:	I (mA)	Max. allowed I (mA)
Supplementary information:		

13.3	TABLE: Dielectric strength	N/A
Test voltage applied between:	Test potential applied (V)	Breakdown / flashover (Yes/No)
Supplementary information:		

14	TABLE: Transient overvoltages	N/A			
Clearance between:	CI (mm)	Required CI (mm)	Rated impulse voltage (V)	Impulse test voltage (V)	Flashover (Yes/No)
Supplementary information:					

16.2	TABLE: Leakage current	N/A
	Single phase appliances: 1.06 x rated voltage (V).....:	—
	Three phase appliances 1.06 x rated voltage divided by $\sqrt{3}$ (V):	—
Leakage current between:	I (mA)	Max. allowed I (mA)
Supplementary information:		

16.3	TABLE: Dielectric strength	N/A
Test voltage applied between:	Test potential applied	Breakdown / flashover

Clause	Requirement – Test	Result - Remark	Verdict
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	(V)	(Yes/No)
Supplementary information:		

17	TABLE: Overload protection		N/A
Thermocouple locations:	Max. temperature rise measured, ΔT (K)	Max. temperature rise limit, ΔT (K)	
Supplementary information:			

17	TABLE: Overload protection, resistance method					N/A
Test voltage (V)..... :						—
Ambient, t1 (°C)..... :						—
Ambient, t2 (°C)..... :						—
Temperature of winding:	R1 (Ω)	R2 (Ω)	ΔT (K)	T (°C)	Max. T (°C)	
Supplementary information:						

19	Abnormal operation conditions						P
Operational characteristics			YES/NO	Operational conditions			
Are there electronic circuits to control the appliance operation?			YES	Normal			
Are there “off” or “stand-by” position obtained by electronic disconnection?			No	Normal			
The unintended operation of the appliance results in dangerous malfunction?			Yes	Normal			
Sub-clause	Operating conditions	Test results description	PEC	EMP	Software type	19.11.3	Final result

Clause	Requirement – Test	Result - Remark	Verdict
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	description		description	19.11.4	required	PEC	
19.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.11.4.8	Voltage reduction	No excessive temperature. Normal operation.	N/A	N/A	N/A	N/A	P
19.14	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.15	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Supplementary information: There is no excessive temperature during testing.							

19.7	TABLE: Abnormal operation, locked rotor/moving parts						N/A
	Test voltage (V)..... :						—
	Ambient, t1 (°C)..... :						—
	Ambient, t2 (°C)..... :						—
Temperature of winding:		R1 (Ω)	R2 (Ω)	Δ T (K)	T (°C)	Max. T (°C)	
Supplementary information:							

19.9	TABLE: Abnormal operation, running overload						N/A
	Test voltage (V)..... :						—
	Ambient, t1 (°C)..... :						—
	Ambient, t2 (°C)..... :						—
Temperature of winding:		R1 (Ω)	R2 (Ω)	Δ T (K)	T (°C)	Max. T (°C)	

Clause	Requirement – Test	Result - Remark	Verdict
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Supplementary information:					

19.13	TABLE: Abnormal operation, temperature rises			P
Thermocouple locations:	Max. temperature rise measured, ΔT (K)	Max. temperature rise limit, ΔT (K)		
PCB	4,1	Ref.		
PCB	3,4	Ref.		
Line filter choke	7,2	Ref.		
PVC insulation of wire	1,0	Ref.		
Inlet	1,1	Ref.		
Switch	1,3	Ref.		
Plastic touching surface	1,8	Ref.		
Wooden support	0,4	150		
Supplementary information:				

21.1	TABLE: Impact resistance			P
Impacts per surface	Surface tested	Impact energy (Nm)	Comments	
3	Enclosure	0,5	No cracks	
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Supplementary information:				

24.1	TABLE: Critical components information					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	
Enclosure	VELLEMAN	VCAH	200x160x65mm Polypropylene	En 60335-1	Tested in the appliance	
Switch	CHANGZHOU JILING ELECTRICAL APPLIANCE FACTORY	KCD-12	6A/10A 125V/250V	UL code: WOYR2 EN 61058-1	UL (E332058) TÜV Rh. (R 50206171)	
Supplementary information:						

Clause	Requirement – Test	Result - Remark	Verdict
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1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.

28.1	TABLE: Threaded part torque test			P
Threaded part identification:	Diameter of thread (mm)	Column number (I, II, or III)	Applied torque (Nm)	
Mechanical fixation of enclosure	4	II	1,2	
Mechanical fixation of PCB	2,88	II	0,5	
Electrical connection	2,5	II	0,4	
Supplementary information:				

29.1	TABLE: Clearances					N/A
	Overvoltage category				N/A	—
		Type of insulation:				
Rated impulse voltage (V):	Min. cl (mm)	Basic (mm)	Supplementary (mm)	Reinforced (mm)	Functional (mm)	Verdict / Remark
330	0,2* / 0,5 / 0,8**					
500	0,2* / 0,5 / 0,8**					
800	0,2* / 0,5 / 0,8**					
1 500	0,5 / 0,8** / 1,0***					
2 500	1,5 / 2,0***					
4 000	3,0 / 3,5***					
6 000	5,5 / 6,0***					
8 000	8,0 / 8,5***					
10 000	11,0 / 11,5***					
Supplementary information:						
*) For tracks on printed circuit boards if pollution degree 1 and 2						

Clause	Requirement – Test	Result - Remark	Verdict
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**) For pollution degree 3

***) If the construction is affected by wear, distortion, movement of the parts or during assembly

29.2	TABLE: Creepage distances, basic, supplementary and reinforced insulation										N/A
Working voltage (V):	Creepage distance (mm) Pollution degree										
	1	2			3			Type of insulation			
	Material group			Material group							
	I	II	IIIa/IIIb	I	II	IIIa/IIIb*	B**	S**	R**	Verdict	
≤50	0,18	0,6	0,85	1,2	1,5	1,7	1,9				N/A
≤50	0,18	0,6	0,85	1,2	1,5	1,7	1,9				N/A
≤50	0,36	1,2	1,7	2,4	3,0	3,4	3,8				N/A
125	0,28	0,75	1,05	1,5	1,9	2,1	2,4				N/A
125	0,28	0,75	1,05	1,5	1,9	2,1	2,4				N/A
125	0,56	1,5	2,1	3,0	3,8	4,2	4,8				N/A
250	0,56	1,25	1,8	<u>2,5</u>	3,2	3,6	4,0				N/A
250	0,56	1,25	1,8	2,5	3,2	3,6	4,0				N/A
250	1,12	2,5	3,6	<u>5,0</u>	6,4	7,2	8,0				N/A
400	1,0	2,0	2,8	4,0	5,0	5,6	6,3				N/A
400	1,0	2,0	2,8	4,0	5,0	5,6	6,3				N/A
400	2,0	4,0	5,6	8,0	10,0	11,2	12,6				N/A
500	1,3	2,5	3,6	5,0	6,3	7,1	8,0				N/A
500	1,3	2,5	3,6	5,0	6,3	7,1	8,0				N/A
500	2,6	5,0	7,2	10,0	12,6	14,2	16,0				N/A
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0				N/A
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0				N/A

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Clause	Requirement – Test							Result - Remark			Verdict
>630 and ≤800	3,6	6,4	9,0	12,6	16,0	18,0	20,0				N/A
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5				N/A
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5				N/A
>800 and ≤1000	4,8	8,0	11,2	16,0	20,0	22,0	25,0				N/A
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0				N/A
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0				N/A
>1000 and ≤1250	6,4	10,0	14,2	20,0	25,0	28,0	32,0				N/A
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0				N/A
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0				N/A
>1250 and ≤1600	8,4	12,6	18,0	25,0	32,0	36,0	40,0				N/A
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0				N/A
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0				N/A
>1600 and ≤2000	11,2	16,0	22,0	32,0	40,0	44,0	50,0				N/A
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0				N/A
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0				N/A
>2000 and ≤2500	15,0	20,0	28,0	40,0	50,0	56,0	64,0				N/A
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0				N/A
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0				N/A
>2500 and ≤3200	20,0	25,0	36,0	50,0	64,0	72,0	80,0				N/A
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0				N/A
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0				N/A
>3200 and ≤4000	25,0	32,0	44,0	64,0	80,0	90,0	100,0				N/A
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0				N/A
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0				N/A
>4000 and ≤5000	32,0	40,0	56,0	80,0	100,0	112,0	126,0				N/A
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0				N/A

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Clause	Requirement – Test							Result - Remark			Verdict
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>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0				N/A
>5000 and ≤6300	40,0	50,0	72,0	100,0	126,0	142,0	160,0				N/A
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0				N/A
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0				N/A
>6300 and ≤8000	50,0	64,0	90,0	126,0	160,0	180,0	200,0				N/A
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0				N/A
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0				N/A
>8000 and ≤10000	64,0	80,0	112,0	160,0	200,0	220,0	250,0				N/A
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0				N/A
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0				N/A
>10000 and ≤12500	80,0	100,0	142,0	200,0	250,0	280,0	320,0				N/A

Supplementary information:

*) Material group IIIb is allowed if the working voltage does not exceed 50 V

***) B = Basic insulation, S = Supplementary insulation, R = Reinforced insulation

29.2	TABLE: Creepage distances, functional insulation								P
Working voltage (V):	Creepage distance (mm) Pollution degree							Verdict / Remark	
	1	2			3				
	Material group				Material group				
	I	II	IIIa/IIIb	I	II	IIIa/IIIb*			
10	0,08	0,4	0,4	<u>0,4</u>	1,0	1,0	1,0	P**	
50	0,16	0,56	0,8	1,1	1,4	1,6	1,8	N/A	
125	0,25	0,71	1,0	1,4	1,8	2,0	2,2	N/A	
250	0,42	1,0	1,4	2,0	2,5	2,8	3,2	N/A	
400	0,75	1,6	2,2	3,2	4,0	4,5	5,0	N/A	

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Clause	Requirement – Test							Result - Remark	Verdict

500	1,0	2,0	2,8	4,0	5,0	5,6	6,3	N/A
630 and 800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	N/A
800 and 1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	N/A
1000 and 1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	N/A
1250 and 1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	N/A
1600 and 2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	N/A
2000 and 2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	N/A
2500 and 3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	N/A
3200 and 4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	N/A
4000 and 5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	N/A
5000 and 6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	N/A
6300 and 8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	N/A
8000 and 10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	N/A
10000 and 12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	N/A

Supplementary information:

*) Material group IIIb is allowed if the working voltage does not exceed 50 V

**) According to IEC 60664-1 Table F.4 minimum clearance is 0,04mm on PCB.

30.1	TABLE: Ball Pressure Test of Thermoplastics				N/A
Allowed impression diameter (mm)					—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)		

Supplementary information:

30.2	TABLE: Resistance to heat and fire - Glow wire tests			N/A
Object/	Glow wire test (GWT); (°C)			

Clause	Requirement – Test	Result - Remark	Verdict
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Part No./ Material	Manufacturer / trademark							Verdict
		550	650		750		850	
			te	ti	te	ti		
Object/ Part No./ Material	Manufacturer / trademark	Glow-wire flammability index (GWFI), °C				GW ignition temp. (GWIT), °C		Verdict
		550	650	750	850	675	775	
The test specimen passed the glow wire test (GWT) with no ignition [(te – ti) ≤ 2s] (Yes/No):								
If no, then surrounding parts passed the needle-flame test of annex E (Yes/No).....:								
The test specimen passed the test by virtue of most of the flaming material being withdrawn with the glow-wire (Yes/No)?								
Ignition of the specified layer placed underneath the test specimen (Yes/No).....:								
Supplementary information:								
- 550 °C GWT not relevant (or applicable) to parts of material classified at least HB40 or if relevant HBF								
- The GWIT pre-selection option, the 850 °C GWFI pre-selection option, and the 850 °C GWT are not relevant (or applicable) for attended appliances								

30.2/30.2.4	TABLE: Needle- flame test (NFT)					N/A
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict	

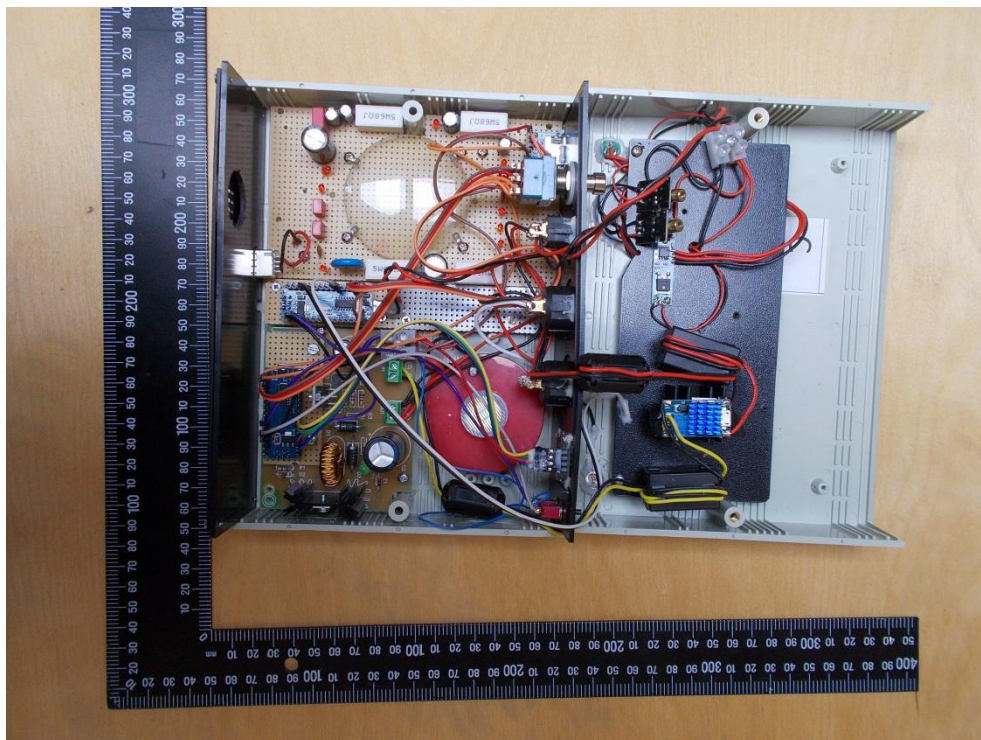
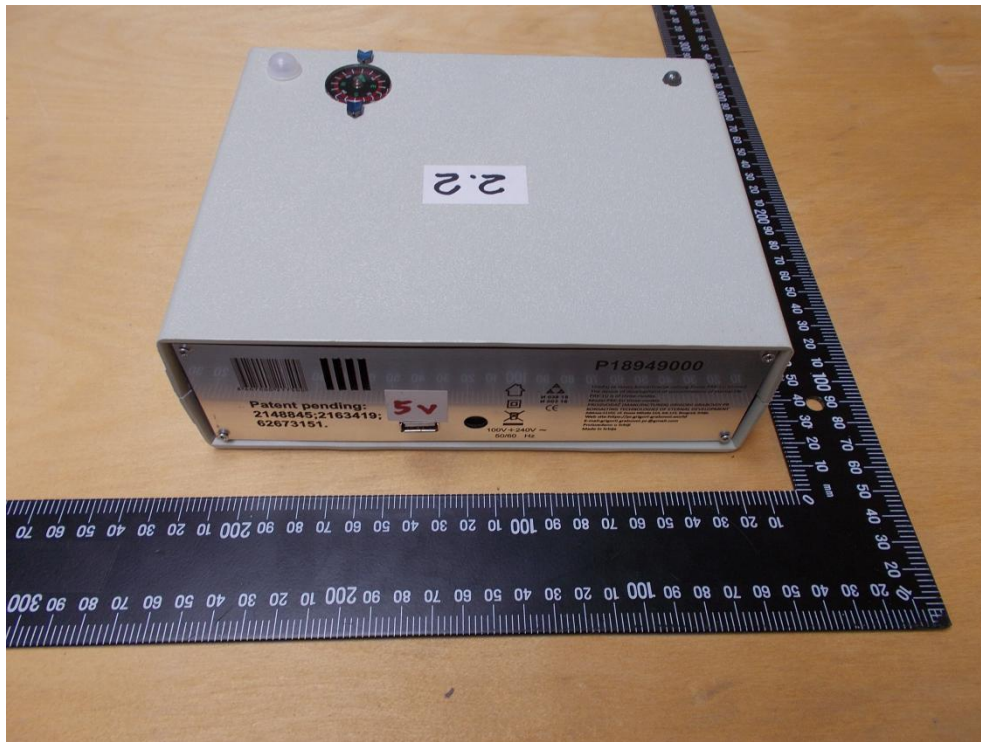
Clause	Requirement – Test	Result - Remark	Verdict
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Supplementary information:

- NFT not relevant (or applicable) for Parts of material classified as V-0 or V-1
- NFT not relevant (or applicable) for Base material of PCBs classified as V-0 or if relevant VTM-0

Photographic documentation





- End of Test Report -