Test Report issued under the responsibility of:

TEST REPORT
IEC 60335-2-80
HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY – Part 2: Particular requirements for fans

Report Number.....:	AOC250425024S
Date of issue.....:	May 16, 2025
Total number of pages.....:	151 pages
Name of CB Testing Laboratory preparing the Report.....:	Shenzhen AOCE Electronic Technology Service Co., Ltd Room 202, 2nd Floor, No.12th Building of Xinhe Tongfuyu Industrial Park, Fuhai Street, Baoan District, Shenzhen, Guangdong, China
Applicant's name.....:	FOSHAN YEHANG ELECTRONIC CO. LTD
Address.....:	4th Floor, Block 9, Jilong Industrial Park, Leliu Town, Foshan City, China 528322
Test specification:	
Standard.....:	☒ IEC 60335-2-80:2024 in conjunction with IEC 60335-1:2020
Test procedure.....:	Type testing
Non-standard test method.....:	N/A
TRF template used.....:	IECEE OD-2020-F1:2024, Ed.1.7
Test Report Form No.....:	IEC60335_2_80K
Test Report Form(s) Originator.....:	DEKRA Certification B.V.
Master TRF.....:	Dated 2025-02-11

This report is not valid as a CB Test Report unless signed by an approved IECEE Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.
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Test item description.....:	Misting Fan
Trademark(s).....:	Bennett Read
Manufacturer.....:	FOSHAN YEHANG ELECTRONIC CO. LTD 4th Floor, Block 9, Jilong Industrial Park, Leliu Town, Foshan City, China 528322
Model/Type reference.....:	BRMF1, BRMF2, BRMF3, BRMF4
Ratings.....:	220-240 V~, 50 Hz, 80 W, Class II, IPX0

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):

☒	**Testing Laboratory:**	Shenzhen AOCE Electronic Technology Service Co., Ltd	
Testing location/ address.....:		Room 202, 2nd Floor, No.12th Building of Xinhe Tongfuyu Industrial Park, Fuhai Street, Baoan District, Shenzhen, Guangdong, China	
Tested by (name, function, signature).....:		ZhiCong Xian Technical Engineer	ZhiCong
Approved by (name, function, signature)...:		Robin Liu Technical Manager	Robin.
☐	**Testing procedure: CTF Stage 1:**	N/A	
Testing location/ address.....:			
Tested by (name, function, signature).....:			
Approved by (name, function, signature)...:			
☐	**Testing procedure: CTF Stage 2:**	N/A	
Testing location/ address.....:			
Tested by (name + signature).....:			
Witnessed by (name, function, signature)..:			
Approved by (name, function, signature)...:			
☐	**Testing procedure: CTF Stage 3:**	N/A	
☐	**Testing procedure: CTF Stage 4:**	N/A	
Testing location/ address.....:			
Tested by (name, function, signature).....:			
Witnessed by (name, function, signature)..:			
Approved by (name, function, signature)...:			
Supervised by (name, function, signature) :			

Shenzhen AOCE Electronic Technology Service Co., Ltd. APPROVED

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

- Attachment 1: Photo document

Summary of testing:

Tests performed (name of test, test clause and date test performed):	**Testing location: (CBTL, SPTL, CTF, Subcontractor)**
- Full tests were carried out on BRMF1.	Provide information on testing location (CBTL, SPTL, Client's laboratory, Subcontractor's laboratory and split testing when allowed and used) Shenzhen AOCE Electronic Technology Service Co., Ltd Room 202, 2nd Floor, No.12th Building of Xinhe Tongfuyu Industrial Park, Fuhai Street, Baoan District, Shenzhen, Guangdong, China

Summary of compliance with National Differences

Include only National Differences evaluated and declared by member countries of IECEE CB Scheme. Non-member countries or national or regional standards can be included for information in the General Product Information section of the Test Report but will not to be listed on CB Test Certificate. (See OD 2037, item 7.1).

- IECEE Member countries that are also CENELEC members

  Compliance with Group Differences evaluated ☐ **yes** ☐ **No** ☒ N/A

  No countries to be listed here. Select N/A if no GD TRF published.

  Select No if the client did not request to evaluate Group Differences

- IECEE Member countries with published National Differences which were evaluated:

  Insert countries (ISO codes) or N/A. CENELEC members evaluated in first bullet and with National Differences in addition to Group Differences shall also be listed here.

- IECEE Member countries that did not publish any National Differences:

  Insert countries (ISO codes) or N/A

To support compliance with published National Differences, attach a compilation of relevant ND and/or GD TRFs to the CB Test Report

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

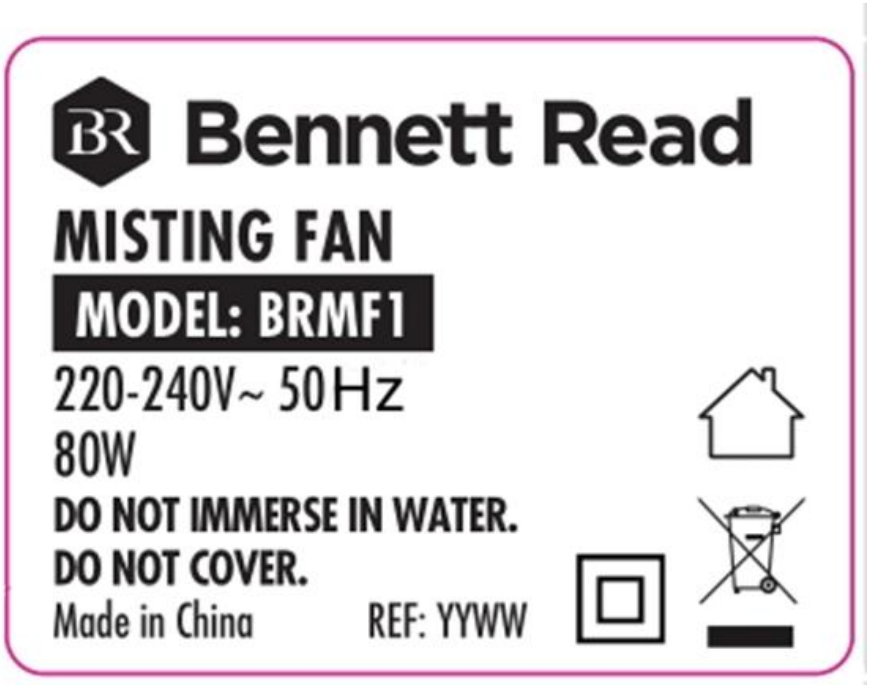
☒ No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known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

☐ Other: … (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)

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 IECEE.
IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.
Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



Test item particulars..... :	
Classification of installation and use.....:	Portable appliance
Supply Connection.....:	Supply cord fitted with a plug
.....:	
Possible test case verdicts:	
- test case does not apply to the test object.....:	N/A
- test object does meet the requirement.....:	P (Pass)
- test object does not meet the requirement.....:	F (Fail)
Testing..... :	
Date of receipt of test item.....:	April 14, 2025
Date (s) of performance of tests.....:	April 14, 2025 to May 16, 2025

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.
For appliances marked with a rated voltage range where no multiplier factor is specified, the test voltage reported was the voltage in the range that gave the most unfavourable result.

For appliances marked with a rated frequency range of 50 – 60 Hz or with the symbol indicating the nature of the supply is AC the test frequency reported was 50 Hz or 60 Hz (see 5.8.1) whichever gave the most unfavourable result.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:	☐ **Yes** ☒ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies)..... :	FOSHAN YEHANG ELECTRONIC CO. LTD 4th Floor, Block 9, Jilong Industrial Park, Leliu Town, Foshan City, China 528322

General product information and other remarks:

- Appliance fitted with one fan motor, one synchronous motor.
- Speed, swing can be adjusted by the remote control.

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
5	**GENERAL CONDITIONS FOR THE TESTS**		-
	Tests performed according to clause 5, e.g. nature of supply, sequence of testing, etc.		P
5.5	Fans are operated with any oscillating mechanism in operation. (IEC 60335-2-80)		P
5.7	Fans to be used in tropical climates, the tests of clause 10,11 and 13 are carried out at 40 °C (+ 3 °C /0 °C) (IEC 60335-2-80)		N/A
	Fans marked with ambient operating temperature, the tests of clause 10, 11 and 13 are carried out at marked value (+3 °C /0 °C) (IEC 60335-2-80)		N/A
5.8.2	Appliances having more than one rated voltage..... :	Upper value: 220 V Lower value: 240 V	P
5.8.3	Heating Appliances and combined appliances marked with a rated power input range..... :		N/A
5.8.4	Appliances with a rated voltage range and with a rated power input corresponding to the mean value of the rated voltage range		N/A
5.10	Partition fans are installed in the centre of a suitable partition having dimensions at least four times the diameter of the air inlet. (IEC 60335-2-80)		N/A
	Duct fans are installed in a duct in accordance with the installation instructions, the length of the duct being approximately four times the diameter of the fan. (IEC 60335-2-80)		N/A
6	**CLASSIFICATION**		-
6.1	Protection against electric shock: Class 0, 0I, I, II, III.....:	Class II	P
6.2	Protection against harmful ingress of water	IPX0	P
	Duct fans are at least IPX2. (IEC 60335-2-80)		N/A
6.101	Classification to climatic conditions: (IEC 60335-2-80)		N/A
	- fans for temperature climates (IEC 60335-2-80)		P
	- fans for tropical climates (IEC 60335-2-80)		N/A
7	**MARKING AND INSTRUCTIONS**		-
7.1	Appliances marked with		P
	Rated voltage or voltage range (V)..... :	220-240 V	P
	Symbol for nature of supply, or.....:	~	P
	Rated frequency (Hz).....:	50 Hz	P

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	Rated power input (W), or.....:	80 W	P
	Rated current (A).....:		N/A
	Manufacturer's or responsible vendor's name, trademark or identification mark.....:	FOSHAN YEHANG ELECTRONIC CO. LTD	P
	Model or type reference.....:	BRMF1	P
	Symbol IEC 60417-5172, for class II appliances		P
	IP number, other than IPX0..... :	IPX0	N/A
	Symbol IEC 60417-5180, for class III appliances, unless		N/A
	the appliance is operated by batteries only, or		N/A
	the appliance is powered by rechargeable batteries recharged in the appliance		N/A
	Appliance outlets accessible to the user and socket-outlets accessible to the user:		N/A
	- that are incorporated in appliances connected to the supply mains, and		N/A
	- that operate at rated voltage		N/A
	marked with their outlet load (W or A)..... :		N/A
	Appliances intended to be supplied from a detachable power supply part to recharge the battery marked with:		N/A
	- symbol ISO 7000-0790		N/A
	- symbol IEC 60417-6181		N/A
	- model or type reference of the detachable power supply part, or.....:		N/A
	- the substance of the following: “Use only with <model or type reference> supply unit”		N/A
	Symbol IEC 60417-5018, for class II and class III appliances incorporating a functional earth		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
	Fans for tropical climates are marked with the letter T. (IEC 60335-2-80)		N/A
	Fans intended for operation in location where the local temperature exceeds 40 °C are marked with		N/A

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	the ambient operating temperature. (IEC 60335-2-80)		
7.2	stationary appliances for multiple supply:		N/A
	Warning to disconnect all supply circuits		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		P
	Different rated values marked with the values separated by an oblique stroke		P
	Requirement also applied to appliances for connection to both single phase and multiphase supplies		N/A
7.4	Appliances adjustable for different rated voltages or rated frequencies, the voltage or the frequency setting is clearly discernible		N/A
	frequent changes in voltage or frequency setting not required, adjustment of rated voltage or rated frequency determined from wiring diagram		N/A
	Wiring diagram may be on the inside of a cover that has to be removed to connect the supply conductors		N/A
	Wiring diagram not on a label loosely attached to the appliance		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		N/A
	the power input or current are related to the arithmetic mean value of the rated voltage range		P
	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		P
	Symbol for class II appliances placed unlikely to be confused with other marking		P
	Units of physical quantities and their symbols according to international standardized system		P
	Additional symbols give no rise to		P

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	misunderstanding		
	Symbols specified in IEC60417 and ISO7000 are used.		P
7.7	Connection diagram fixed to appliances to be connected to more than two supply conductors and appliances for multiple supply, unless		N/A
	correct mode of connection is obvious		N/A
	For multi-phase appliances, correct mode of connection considered to be obvious if:		N/A
	- indicated by arrows pointing towards the terminals, or		N/A
	- marked in words		N/A
	Connection diagram is the wiring diagram		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)		N/A
	- marking of protective earthing terminals (symbol IEC 60417-5019)		N/A
	- marking of functional earthing terminals (symbol IEC 60417-5018)		N/A
	- marking not placed on removable parts		N/A
7.9	Marking or placing of switches which may cause a hazard		P
7.10	Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means..... :		P
	This applies also to switches which are part of a control		N/A
	If figures are used, the off position indicated by the figure 0		N/A
	The figure 0 indicates only OFF position, unless no confusion with the OFF position		N/A
	The figure 0 is used on a digital programming keyboard		N/A
7.11	Indication for direction of adjustment of controls		P
7.12	Instructions for safe use provided in hard copy form		P
	Instructions marked on the appliance are visible in normal use		P

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	Details concerning precautions during user maintenance		P
	The instructions the substance of the following:		P
	- this appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety		P
	- children should be supervised not to play with the appliance		P
	For a part of class III construction supplied from a detachable power supply part, 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		N/A
	it is a battery-operated appliance; the battery being charged outside the appliance		N/A
	For appliances for altitudes exceeding 2 000 m, the maximum altitude is stated.....:		N/A
	The instructions for appliances incorporating a functional earth state that the appliance incorporates an earth connection for functional purposes		N/A
	The instructions for appliances intended to be connected to a supply for battery recharging state a warning to only use an external supply with the described specifications		N/A
	The instructions for appliances intended to be supplied from a detachable power supply part for battery recharging state the type reference of the supply part along with a warning to only use the unit provided with this appliance		N/A
	The instructions for appliances intended for use with batteries using metal-ion chemistries state the normal temperature range for battery charging		N/A
	Meaning of symbol for detachable power supply part explained, unless not used		N/A
	If the instructions state that the guard has to be removed for cleaning purposes, the instructions state the substance of the following: (IEC 60335-2-80)		P
	Ensure that the fan is switched off from the supply mains before removing the guard. (IEC 60335-2-80)		P

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	The instructions for ceiling fans include the substance of the following warning: (IEC 60335-2-80)		N/A
	WARNING: If unusual oscillating movement is observed, immediately stop using the ceiling fan and contact the manufacturer, its service agent or suitably qualified persons. (IEC 60335-2-80)		N/A
	The instructions for ceiling fans include the following: (IEC 60335-2-80)		N/A
	– the maintenance cycle and method of maintenance; (IEC 60335-2-80)		N/A
	– the weight of the appliance in kilograms; (IEC 60335-2-80)		N/A
	– that the replacement of parts of the safety suspension system device shall be performed by the manufacturer, its service agent or suitably qualified persons. (IEC 60335-2-80)		N/A
	The instructions for fans incorporating motors containing brushes include the substance of the following: (IEC 60335-2-80)		N/A
	If it is necessary to replace the live or neutral brushes to ensure operation of the motor, both brushes and the earth brush shall be replaced at the same time. The brushes shall only be replaced by a suitably qualified person. (IEC 60335-2-80)		N/A
	The instructions for an infant fan shaped or decorated like a toy include the substance of the following: (IEC 60335-2-80)		N/A
	This is not a toy. This is an electrical appliance and must be operated and maintained by an Adult. (IEC 60335-2-80)		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		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
	Instructions for fixed appliances intended for installation above 850 mm in normal use include the substance of the following: (IEC 60335-2-80)		N/A
	Do not mount this product lower than 850 mm from the floor. (IEC 60335-2-80)		N/A
	The installation instructions for ceiling fans include of the following information: (IEC 60335-2-80)		N/A
	– that the fixing means for attachment to the ceiling		N/A

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	such as hooks or other devices shall be fixed with a sufficient strength to withstand 4 times the weight of the ceiling fan; (IEC 60335-2-80)		
	– that the mounting of the suspension system shall be performed by the manufacturer, its service agent or suitably qualified persons; (IEC 60335-2-80)		N/A
	– that the fan is to be installed so that the blades are more than 2,3 m above the floor; (IEC 60335-2-80)		N/A
	– the model or type reference of a luminaire that may be installed in a fan constructed for this purpose. (IEC 60335-2-80)		N/A
	The instructions for other fans include the following information: (IEC 60335-2-80)		N/A
	– whether the fan is intended for mounting in outside windows or walls (for partition fans); (IEC 60335-2-80)		N/A
	– that the fan is to be installed so that the blades are more than 2,3 m above the floor (for fans intended to be mounted at high level); (IEC 60335-2-80)		N/A
	– that precautions must be taken to avoid the back-flow of gases into the room from the open flue of gas or other fuel-burning appliances (for duct fans and partition fans). (IEC 60335-2-80)		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		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		N/A
7.12.4	Instructions for built-in appliances:		N/A
	- dimensions of space		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

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	- 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
7.12.5	Replacement cord instructions, type X attachment with a specially prepared cord		N/A
	Replacement cord instructions, type Y attachment		P
	Replacement cord instructions, type Z attachment		N/A
	Replacement cord set instructions, if required according to 22.58		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		N/A
7.12.7	Instructions for fixed appliances stating how the appliance is to be fixed		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
7.12.9	Instructions specified in 7.12 and from 7.12.1 to 7.12.8 are in hard copy form and appear together before any other instructions supplied with the appliance		P
	Alternatively, these instructions may be supplied with the appliance separately from any functional use booklet		P
	They may follow the description of the appliance that identifies parts, or follow the drawings/sketches common to the languages of the instructions		P
	They may follow the description of the appliance that identifies parts, or follow the drawings/sketches		P
	In addition, instructions are also available in an alternative format such as on a website or on request in a format such as a DVD..... :		P
7.13	Instructions and other texts in an official language		P

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
7.14	Markings clearly legible:		P
	Signal words WARNING, CAUTION, DANGER in uppercase having a height as specified..... :		P
	Uppercase letter of the text explaining the signal word not smaller than 1,6 mm..... :		N/A
	Moulded in, engraved, or stamped markings either raised above or have a depth below the surface of at least 0,25 mm, unless		N/A
	contrasting colours are used		N/A
	Markings checked by inspection, measurement and rubbing test as specified		N/A
	Markings clearly durable, and on containers that are likely to be cleaned frequently they are not by means of paint or enamel, other than vitreous enamel		P
7.15	Markings specified in 7.1 to 7.5 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		P
	For stationary appliances, name, trademark or identification mark and model or type reference visible after installation		N/A
	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		N/A
	Type reference of detachable power supply part placed next to symbol IEC 60417-6181		N/A
	Marking of outlet load close to appliance outlet or socket-outlet		N/A
8	**PROTECTION AGAINST ACCESS TO LIVE PARTS**		-
8.1	Adequate protection against accidental contact with live parts		P
8.1.1	Requirement applies for all positions, detachable		P

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	parts removed unless otherwise specified		
	Use of test probe B of IEC 61032:		P
	- force not exceeding 1 N: no contact with live parts		P
	- force of 20 N: no contact with live parts		N/A
	- lamps behind a detachable cover not removed, if conditions met		N/A
	- protection against contact with live parts of the lamp cap during lamp insertion or removal		N/A
	Use of test probe 18 of IEC 61032 for non-commercial appliances and commercial appliances intended for public access:		N/A
	- force not exceeding 1 N: no contact with live parts		N/A
	- force of 10 N: no contact with live parts		N/A
	- appliance fully assembled as in normal use, no parts removed		N/A
	No contact with live parts protected by materials as specified		P
	Test probe 18 of IEC 61032 is not applied to ceiling fans, duct fans, or fans that according to the instructions are required to be mounted at a height exceeding 1,8 m above the floor. (IEC 60335-2-80)		N/A
	In addition to the use of test probe 18, test probe 19 of IEC 61032 is applied wherever test probe 18 is used and with the same test conditions used for test probe 18. (IEC 60335-2-80)		P
	For other than infant fans, test probe 19 of IEC 61032 is not applied to: (IEC 60335-2-80)		N/A
	- parts of fans that are located at a height greater than 850 mm in normal use (IEC 60335-2-80)		N/A
	- fans which according to the instructions are required to be mounted at a height exceeding 850 mm. (IEC 60335-2-80)		N/A
	Commercial fans intended to be used in household environments, such as those used for drying carpets after professional cleaning or flooding/water damage are considered to be fans that are installed in an area open to the public. (IEC 60335-2-80)		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:		P

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	no contact with live parts		
	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 or supporting parts		N/A
	For a single switching action obtained by a switching device, requirements as specified		N/A
	For appliances with a supply cord and without a switching device, the single switching action may be obtained by the withdrawal of the plug		N/A
8.1.4	Appliance supplied at rated voltage (V)..... :		N/A
	Accessible part not considered live if:		N/A
	- safety extra-low AC voltage: peak value not exceeding 42,4 V		N/A
	- safety extra-low DC voltage: not exceeding 42,4 V		N/A
	- or separated from live parts by protective impedance		N/A
	If protective impedance: DC current not exceeding 2 mA, and		N/A
	AC 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 mF		N/A
	- for peak values over 450 V up to and including 15 kV, discharge not exceeding 45 mC		N/A
	- for peak values over 15 kV, 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:		P
	- built-in appliances		N/A
	- fixed appliances		N/A
	- appliances delivered in separate units		P
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		P
	Only possible to touch parts separated from live		P

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	parts by double or reinforced insulation		
	After removal of detachable parts for user maintenance purposes, the basic insulation of internal wiring may be touched provided the equivalent insulating of cords complying with IEC 60227 or IEC 60245. (IEC 60335-2-80)		P
8.3	For battery-operated appliances with a functional earth or supply connection, parts within a battery compartment only accessible if:		N/A
	- class I, 0I and II appliances: separated from live parts by double and reinforced insulation		N/A
	- class 0 appliances: separated from live parts by basic insulation		N/A
	- battery compartment of class III construction, and basic insulation in addition to supply at SELV, if limits in 8.1.4 exceeded		N/A
9	**STARTING OF MOTOR-OPERATED APPLIANCES**		-
	Requirements and tests are specified in part 2 when necessary		N/A
10	**POWER INPUT AND CURRENT**		
10.1	Appliance supplied at rated voltage (V):	230 V	P
	Power input at normal operating temperature and normal operation not deviating from rated power input by more than shown in Table 1	(See appended table)	P
	If the power input varies throughout the operating cycle and its maximum value exceeds twice its arithmetic mean value occurring during a representative period, the power input is the maximum value that is exceeded for more than 10 % of the representative period if this value is greater than the arithmetic mean value,		N/A
	otherwise the power input is the arithmetic mean value		P
	In case of doubt, the power input of the motors may be measured separately	(See appended table)	N/A
	In case of measurement during a representative period, duration of the representative period……:		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 of the relevant range		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Appliance outlets accessible to the user and socket-outlets accessible to the user incorporated in appliances connected to the supply mains and operating at rated voltage are not loaded during test,		N/A
	however, their contribution to the power input is considered to be the marked outlet load per appliance outlet or socket-outlet		N/A
	Appliances are tested with shutters or similar devices in the open position.(IEC 60335-2-80)		N/A
10.2	Appliance supplied at rated voltage (V)..... :	Test voltage = (See appended table) Frequency = (maybe relevant for moa, ca, smps type	N/A
	Current at normal operating temperature and normal operation not deviating from rated current by more than shown in Table 2	(See appended table)	N/A
	If the current varies throughout the operating cycle and its maximum value exceeds twice its arithmetic mean value occurring during a representative period, the current is the maximum value that is exceeded for more than 10 % of the representative period if this value is greater than the arithmetic mean value,		N/A
	otherwise the current is the arithmetic mean value		N/A
	In case of doubt, the current of the motors may be measured separately	(See appended table)	N/A
	In case of measurement during a representative period, duration of the representative period……:		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 relevant range		N/A
	Appliance outlets and socket-outlets accessible to the user incorporated in appliances connected to the supply mains and operating at rated voltage are not loaded during test,		N/A
	however, their contribution to the current is considered to be the marked outlet load per appliance outlet or socket-outlet		N/A
	Appliances are tested with shutters or similar		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	devices in the open position.(IEC 60335-2-80)		
11	**HEATING**		-
11.1	No excessive temperatures in normal use		P
11.2	The appliance is held, placed or fixed in position as described.....:	On floor	P
11.3	Temperature rises, other than of windings, determined by thermocouples		P
	Temperature rises of windings determined by resistance method, unless		P
	the windings are non-uniform or it is difficult to make the necessary connections		N/A
11.4	Heating appliances operated under normal operation at 1,15 times rated power input (W).....:		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).....:	0.94×220 V 1.06×240 V	P
11.6	Combined appliances operated under normal operation at most unfavourable voltage between 0,94 and 1,06 times rated voltage (V).....:		N/A
11.7	Appliance outlets and socket-outlets accessible to the user loaded with a resistive load that gives the marked outlet load		N/A
	For appliances incorporating integral batteries or separable batteries not disconnected from the appliance during charging:		N/A
	- the fully discharged battery is charged for 1 h, while the appliance is operated continuously performing its intended function		N/A
	- the fully discharged battery is charged for 24 h or until it is fully charged, without the appliance performing its intended function		N/A
	Appliances are operated until steady conditions are established. (IEC 60335-2-80)		P
11.8	During the test, the temperature rises are monitored continuously and do not exceed the values shown in Table 3 and Table 101. (IEC 60335-2-80).....:	(See appended table)	P
	Table 101 does not apply to ceiling fans, duct fans and fans which according to the instructions are required to be mounted at a height exceeding 2,3 m above the floor. (IEC 60335-2-80)		P

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	If the temperature rise of a motor winding exceeds the value of Table 3, or		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		P
	Protective devices do not operate, except		P
	components in protective electronic circuits tested for the number of cycles specified in 24.1.4		N/A
	The temperature rise limits for appliances for tropical climates are reduced by 15 K. (IEC 60335-2-80)		N/A
	The temperature rise limits for fans marked with an ambient operating temperature are reduced by the difference between the marked value and 25 °C. (IEC 60335-2-80)		N/A
	The temperature rise of handles or grips of vents and air shutters do not exceed the value specified in Table 3 for surfaces of handles, knobs, grips and similar parts which are held for short periods only in normal use. (IEC 60335-2-80)		N/A
12	**CHARGING OF METAL-ION BATTERIES**		-
	Charging a battery that uses metal-ion chemistry does not cause any cell to exceed its operating region for charging		N/A
	Fully discharged battery is charged with the charging system indicated in the instructions at an ambient temperature of 20 °C ± 5 °C		N/A
	Test repeated at:		N/A
	- minimum ambient temperature, if specified to be less than 10 °C by the manufacturer (°C).....		N/A
	- at maximum ambient temperature, if specified to be greater than 40 °C by the manufacturer (°C)....:		N/A
	For all individual cells, the voltage, temperature and charging current are monitored..... :	(See appended table)	N/A
	For parallel configuration, analysis used to avoid measuring the individual branch currents,		N/A
	the test result not exceeding the specified operating region for charging		N/A
	Location of thermocouples for each cell		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	temperature measurement on the outer surface, halfway along the longest dimension of the cell		
	For each cell, the specified operating region for charging specified by the cell manufacturer is not exceeded at the temperature of the cell		N/A
	For batteries where cells are configured in series, the test is repeated with the charge in one battery deliberately imbalanced, the imbalance being introduced into a fully discharged battery by charging one cell to:		N/A
	- approximately 50 % of its full charge, or		N/A
	- less than 50 % of its full charge, if it is demonstrated as specified that this would occur in normal operation		N/A
13	**LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE**		-
13.1	Leakage current not excessive and electric strength adequate		P
	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).....:	1.06×240 V	P
	Protective impedance and radio interference filters disconnected before carrying out the tests		N/A
13.2	The leakage current is measured by means of the circuit described in Figure 4 of IEC 60990:2016		P
	For class 0I appliances and class I appliances, except parts of class II construction, C replaced by a low impedance ammeter		N/A
	Leakage current measurements..... :	(See appended table)	P
13.3	The appliance is disconnected from the supply		P
	Electric strength tests according to Table 4..... :	(See appended table)	P
	No breakdown during the tests		P
14	**TRANSIENT OVERVOLTAGES**		-
	Appliances withstand the transient over-voltages to which they may be subjected		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

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Clause	Requirement + Test	Result - Remark	Verdict
	of functional insulation if the appliance complies with clause 19 with the clearance short-circuited		N/A
15	**MOISTURE RESISTANCE**		-
15.1	Enclosure provides the degree of moisture protection according to classification of the appliance		P
	Compliance checked as specified in 15.1.1, taking into account 15.1.2, followed by the electric strength test of 16.3		P
	No trace of water on insulation which can result in a reduction of clearances or creepage distances below values specified in clause 29		P
	No water in the enclosure of appliances and parts of appliances with pins for insertion into socket-outlets		N/A
15.1.1	Appliances, other than IPX0, subjected to tests as specified in IEC 60529:1989 including IEC 60529:1989/AMD1:1999 and IEC 60529:1989/AMD2:2013.....:	IPX0	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
	The outer part of fans to be installed in the external structure is subjected to subclause 14.2.4(a) of IEC 60529:1989. The part of fans that is not mounted on the outside surface is protected against the spray water from the oscillating tube. (IEC 60335-2-80)		N/A
	The test Is carried out with the appliance In the rest position and then in operation while supplied at rated voltage, shutters or similar devices being in the open position. (IEC 60335-2-80)		N/A
	Fans marked with the second numeral of the IP system are subjected to the appropriate test of IEC 60529:1989 including IEC60529:1989/AMD1:1999 and IEC 60529:1989/AMD2:2013 both at rest and in operation while supplied at rated voltage. (IEC 60335-2-80)		N/A
15.1.2	Hand-held appliances turned continuously through the most unfavourable positions during the test		N/A
	Appliances with an automatic cord reel are tested according to 15.1.1 with the supply cord unreeled, coiled and reeled again as specified, and		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	for fixed appliances mounted on the wall or ceiling, the cord is dropped from the minimum height as specified in the instructions before being coiled		N/A
	Built-in appliances installed according to the instructions		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 are mounted on a wooden board		N/A
	Appliances and parts of appliances with integral pins for insertion into socket-outlets are held by the pins in the most unfavourable position without being mounted in a socket-outlet		N/A
	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 with the distance to the floor stated in the instructions are tested with a board placed accordingly under the appliance		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, unless		N/A
	having a specially prepared cord		N/A
	Detachable parts removed and subjected to the relevant treatment with the main part, however not removed if the instructions state that the part must be removed for user maintenance and a tool is needed		N/A
15.2	Spillage of liquid does not affect the electrical		P

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Clause	Requirement + Test	Result - Remark	Verdict
	insulation		
	Spillage solution comprising water containing approximately 1 % NaCl and 0,6 % rinsing agent		P
	Appliances with type X attachment fitted with a flexible cord as described, unless		N/A
	having a specially prepared cord		N/A
	Appliances incorporating an appliance inlet tested with or without a 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).....:		P
	Non-ionic rinsing agent complies with the specified properties		P
	The appliance withstands the electric strength test of 16.3		P
	No trace of water on insulation that can result in a reduction of clearances or creepage distances below values specified in clause 29		P
15.3	Appliances proof against humid conditions		P
	Checked by test Cab: Damp heat steady state in IEC 60068-2-78		P
	Cable entries, if any, left open		N/A
	If knock-outs provided, one of them opened		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		P
	Reassembly of those parts that may have been removed		N/A
	The appliance withstands the tests of clause 16		P
16	**LEAKAGE CURRENT AND ELECTRIC STRENGTH**		-
16.1	Leakage current not excessive and electric strength adequate		P
	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		P
16.2	Single-phase appliances: test voltage 1,06 times	1.06×240 V	P

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Clause	Requirement + Test	Result - Remark	Verdict
	rated voltage (V)..... :		
	Three-phase appliances: test voltage 1,06 times rated voltage divided by √3 (V).....:		N/A
	Leakage current measurements..... :	(See appended table)	P
	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 does not exceed limits specified..:	(See appended table)	P
16.3	Electric strength tests according to Table 7..... :	(See appended table)	P
	No breakdown during the tests		P
17	**OVERLOAD PROTECTION OF TRANSFORMERS AND ASSOCIATED CIRCUITS**		-
	No excessive temperatures in transformer or associated circuits in event of short- circuits likely to occur in normal use.....:	(See appended table)	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 subclause 15.5 of IEC 61558-1:2017		N/A
18	**ENDURANCE**		-
	Requirements and tests can be specified in part 2		N/A
19	**ABNORMAL OPERATION**		-
19.1	The risk of fire, mechanical damage or electric shock under abnormal or careless operation obviated		P

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Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A
	if the appliance also has a control that limits the temperature during clause 11 it is subjected to the test of 19.4, and		N/A
	if applicable, to the test of 19.5		N/A
	Appliances incorporating PTC heating elements are also subjected to the test of 19.6		N/A
	Appliances incorporating motors subjected to the tests of 19.7 to 19.10, as applicable		P
	Appliances incorporating electronic circuits subjected to the tests of 19.11 and 19.12, as applicable		P
	Appliances incorporating contactors or relays subjected to the test of 19.14, being carried out before the tests of 19.11		P
	Appliances incorporating voltage selector switches subjected to the test of 19.15		N/A
	Appliances having a mains connection and replaceable batteries subjected to the test of 19.16		N/A
	Appliances incorporating rechargeable batteries that use metal-ion chemistries subjected to the test of 19.17		N/A
	Unless otherwise specified, the tests are continued until a non-self-resetting thermal cut-out operates, or		N/A
	until steady conditions are established		P
	If a heating element or an intentionally weak part becomes open-circuited, the relevant test is repeated on a second sample, and		N/A
	that same part on the second sample does also become permanently open-circuited in the second test		N/A
	unless a non-self-resetting thermal cut-out operates or steady conditions are established		N/A
	Fans incorporating shutters or similar subjected to the test of cl. 19.101 (IEC 60335-2-80)		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 or if marked		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	with a voltage range 0,85 times the calculated power input at the lower limit of the range (W) .....: See 5.8.4 Power input = $0,85\times(V_L/V_m)^2$ See clause 10		
19.3	Test of 19.2 repeated; test voltage (V), power input of 1,24 times rated power input or if marked with a voltage range 1,24 times the calculated power input at the upper limit of the range (W)..... : See 5.8.4 Power input = $1,24\times(V_u/V_m)^2$ See clause 10		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 class 0I and 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, on appliances where an all-pole disconnection occurs during the test of 19.4, or on appliances used in a system with polarized plugs intended for connection to polarized socket outlets		N/A
19.6	Appliances with PTC heating elements tested at rated voltage, establishing steady conditions		N/A
	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 Note: See DSH 543AA (also applicable to iron cored transformers)	240 V	P
	locking moving parts of other appliances		P
	Locked rotor, capacitors open-circuited one at a time		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Test repeated with capacitors short-circuited one at a time, unless		N/A
	the capacitor is of class S2 or S3 of IEC 60252-1:2010 including IEC 60252-1:2010/AMD1:2013		P
	Appliances with timer or programmer supplied with rated voltage for each of the tests, for a period equal to the maximum period allowed.....:		P
	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)	P
	Mounting of separate control (IEC 60335-2-80)		N/A
	Approximately 50 % of the area of each ventilating opening is blocked. (IEC 60335-2-80)		N/A
	Winding temperatures not exceeding values specified in table 8(IEC 60335-2-80)	(see appended table)	N/A
	The temperature rise of the board not exceed: (IEC 60335-2-80)		N/A
	– 50 K, for appliances with T marking; (IEC 60335-2-80)		N/A
	– 65 K, for other appliances. (IEC 60335-2-80)		N/A
19.8	Multi-phase motors operated at rated voltage with one phase disconnected (V).....:		N/A
19.9	Not applicable. (IEC 60335-2-80)		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
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		P
	they comply with the conditions specified in 19.11.1		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		N/A
	restarting does not result in a hazard		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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	Not possible unsafe operation	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		N/A
	During and after each test the following is checked:		P
	- the temperature of the windings does not exceed the values specified in Table 8		P
	the appliance complies with the conditions specified in 19.13		P
	- 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 normative Annex E		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:		N/A
	- 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 with the appliance supplied at rated voltage (V) :	Test voltage = Frequency =	N/A
	- 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
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:		P
	Appliance supplied at rated voltage (V)..... :	240 V	P
	a) short circuit of functional insulation if clearances or creepage distances are less than the values specified in clause 29		P
	b) open circuit at the terminals of any component		P

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Clause	Requirement + Test	Result - Remark	Verdict
	c) short circuit of capacitors, unless		P
	they comply with IEC 60384-14:2013 including IEC 60384-14:2013/AMD:2016		N/A
	d) short circuit of any two terminals of an electronic component, other than integrated circuits		P
	This fault condition is not applied between the two circuits of an optocoupler		N/A
	f) failure of microprocessors and integrated circuits		P
	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
	Any cord between a battery-operated appliance consuming more than 15 W and the detachable power supply part short-circuited as specified		N/A
19.11.3	If the appliance incorporates a protective electronic circuit that operates to ensure compliance with clause 19, the appliance is tested as specified		N/A
19.11.4	Appliances having a device with an off position obtained by electronic disconnection, or		N/A
	a device that can be placed in the stand-by mode,		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 with the appliance supplied at rated voltage (V)..... : Note: In general, the result is not affected by the test frequency if a frequency range is marked.		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 as specified, however		N/A
	tests of electromagnetic phenomena not applied to protective electronic circuits operating during 19.7 in appliances that are used while attended		N/A
	Surge protective devices disconnected, unless		N/A
	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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
19.11.4.2	The appliance is subjected to radiated fields in accordance with IEC 61000-4-3, at frequency ranges as specified		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		N/A
19.11.4.4	The power supply terminals of the appliance subjected to voltage surges in accordance with IEC 61000-4-5 as specified		N/A
	An open circuit test voltage of 2 kV is applicable for the line-to-line coupling mode		N/A
	An open circuit test voltage of 4 kV is applicable for the line-to-earth coupling mode		N/A
	Earthed heating elements in class I appliances disconnected		N/A
	For appliances having surge arresters incorporating spark gaps, tests repeated at 95 % of the flashover voltage		N/A
19.11.4.5	The appliance is subjected to injected currents in accordance with IEC 61000-4-6, test level 3		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 61000-4-11:2020		N/A
19.11.4.7	The appliance is subjected to mains signals in accordance with IEC 61000-4-13:2002 including IEC 61000-4-13:2002/AMD1:2009 and IEC 61000-4-13:2002/AMD2:2015, test level class 2		N/A
19.11.4.8	The appliance is operated under normal operation and supplied at rated voltage (V).....	Test voltage =	N/A
	After 60 s 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		N/A
	The appliance continues to operate normally, or		N/A
	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); current rating of the fuse-link (A).....:		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		P
	If the appliance can still be operated, it complies with 20.2		N/A
	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:		P
	basic insulation (V).....:	1250	P
	- supplementary insulation (V).....:	1750	P
	- reinforced insulation (V).....:	3000	P
	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		P
	The appliance does not undergo a dangerous malfunction, and		P
	no failure of protective electronic circuits, if the appliance is still operable		P
	For accessible safety extra-low voltage outlets, connectors, or USB outlets, no increase of the no-load output voltage by more than 3 V or 10 % of the voltage in normal use, whichever higher, with a maximum/peak of 42,4 VDC/VAC		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 both:		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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	the conditions of clause 11 being short-circuited		
	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
	If the appliance has several modes of operation, the tests are carried out with the appliance operating in each mode, if necessary		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		N/A
19.16	Appliances having mains connection and replaceable batteries supplied at rated voltage and operated under normal operation but with batteries removed or in any position allowed by construction		N/A
19.17	For battery-operated appliances incorporating a battery using metal-ion chemistry, the battery system is operated according to the instructions and tested under the following conditions, duration as specified		N/A
	a) series configured battery:		N/A
	- imbalance introduced into fully discharged battery by charging one cell to the percentage of being fully charged applied during the test of Clause 12;		N/A
	- single cell or parallel only configured battery: fully discharged		N/A
	b) series configured battery: imbalance introduced as specified and fully charged, if the test of clause 12 was conducted with an imbalance of less than 50 % and if a single fault in the circuitry results in the loss of maintaining balance		N/A
	c) series configured battery: cells at 50 % of full charge, except one which is shortened, battery then fully charged		N/A
	d) fully charged battery connected to the charging system: short circuit introduced to the charging system as specified to produce the most unfavourable results, and for a charging system with a cord connecting to the battery, short circuit introduced at a point producing the most adverse effects; resistance of short circuit not exceeding 10		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	mW		
	No explosion or ignition of the battery during or after the test		N/A
	Voltage on any cell not exceeding upper limit charging voltage by more than 150 mV, unless		N/A
	charging system permanently disabled from recharging battery, checked as specified		N/A
	Recharging considered to be permanently disabled, if:		N/A
	- battery discharged to approximately 50 % of full charge, by using the battery-operated appliance tested (in case of an integral battery), or		N/A
	by using a new sample of the battery-operated appliance (in case of a detachable and separable battery)		N/A
	- attempt made to recharge battery normally		N/A
	- no charging current after 10 min or after 25 % of the nominal capacity has been delivered, whichever occurs first		N/A
19.101	Fans incorporating shutters or similar that are operated automatically are supplied at rated voltage in the closed or open position, whichever is more unfavourable (IEC 60335-2-80)		N/A
20	**STABILITY AND MECHANICAL HAZARDS**		-
20.1	Appliances having adequate stability		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		P
	Tilting test repeated on appliances with heating elements, angle of inclination increased to 15°		N/A
	Possible heating test in overturned position; temperature rise does not exceed values shown in Table 9		N/A
	Portable pedestal fans exceeding 1,7 m and exceeding 10 kg tested with a force of 40 N at 1,5 m. The appliance does not overturn. (IEC 60335-2-80)		N/A
20.2	Moving parts adequately arranged or enclosed as to provide protection against personal injury		P
	Protective enclosures, guards and similar parts are non-detachable, and		P

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Clause	Requirement + Test	Result - Remark	Verdict
	have adequate mechanical strength		P
	Enclosures that can be opened by overriding an interlock are considered to be detachable parts		N/A
	Self-resetting thermal cut outs and overcurrent protective devices not causing a hazard by unexpected closure		N/A
	Not possible to touch dangerous moving parts with the test probes, checked by		P
	- inspection		P
	- test of 21.1		P
	- applying a force not exceeding 5 N by means of a test probe similar to test probe B of IEC 61032 but having a circular stop face with a diameter of 50 mm, instead of the noncircular face		P
	- applying test probe 18 of IEC 61032 with a force not exceeding 2,5 N, if appliance intended for non-commercial use or to be installed in an open to the public		P
	For appliances provided with movable devices such as those intended for varying the tension of belts, the test with the test probe is carried out with these devices adjusted to the most unfavourable position within their range of adjustment. If necessary, belts are removed.		N/A
	It is not possible to touch dangerous moving parts with the test probes.		P
	Test probe 18 of IEC 61032 is not applied to ceiling fans, duct fans or fans that according to the instructions are required to be mounted at a height exceeding 1,8 m above the floor. (IEC 60335-2-80)		N/A
	For infant fans, in addition to test probe 18, test probe 19 of IEC 61032 is applied as specified for test probe 18. (IEC 60335-2-80)		N/A
	The test probe that is similar to test probe B of IEC 61032 but having a circular stop face with a diameter of 50 mm, instead of the non-circular face is not applied to ceiling fans, duct fans or fans that according to the instructions are required to be mounted at a height exceeding 2,3 m above the floor. (IEC 60335-2-80)		N/A
	Commercial fans intended to be used in household environments, such as those used for drying carpets after professional cleaning or flooding/water		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	damage are considered to be fans that are installed in an area open to the public. (IEC 60335-2-80)		
20.101	Fan blades of infant fans are guarded. (IEC 60335-2-80)		N/A
	Fan blades, other than those for mounting at high level, are guarded, unless their leading edges and tips are rounded with a radius of not less than 0,5 mm and: (IEC 60335-2-80)		N/A
	-they have a hardness less than D 60 Shore, or (IEC 60335-2-80)		N/A
	-they have a peripheral speed less than 15 m/s when the fan is supplied at rated voltage, or (IEC 60335-2-80)		N/A
	-the fan has a power output not exceeding 2 W when supplied at rated voltage. (IEC 60335-2-80)		N/A
20.102	There is no risk of entrapment or injury caused by movement of the oscillating head of pedestal fans or table fans. (IEC 60335-2-80)		P
	Unless the entrapment point is guarded so that it cannot be touched by test probe 18 of IEC 61032, the appliance is operated at rated voltage and test probe 18 is placed at the entrapment point across the width and height of its opening. (IEC 60335-2-80)		N/A
	If test probe 18 is touched by the moving part, it is not subjected to a force exceeding 15 N. (IEC 60335-2-80)		N/A
21	**MECHANICAL STRENGTH**		-
21.1	Appliance has adequate mechanical strength and is constructed as to withstand rough handling		P
	Checked by applying 3 blows to every point of the enclosure likely to be weak, in accordance with test Ehb of IEC 60068-2-75, spring hammer test, with an impact energy of 0,5 J	(See appended table)	P
	Appliances and parts of appliances having pins for insertion into mains socket-outlets subjected to the test, Free fall repeated, procedure 2, of IEC 60068-2-31, under the specified conditions		N/A
	The appliance shows no damage impairing compliance with this standard, and		P
	compliance with 8.1, 15.1 and clause 29 not impaired		P

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Clause	Requirement + Test	Result - Remark	Verdict
	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		P
	Test not applicable if the thickness of supplementary insulation is at least 1 mm and reinforced insulation at least 2 mm		P
	The insulation is tested as specified, and does withstand the electric strength test of 16.3		N/A
21.3	Appliances with pins for insertion into socket-outlets with a rotating plug part are provided with a mechanical stop to prevent rotation having adequate mechanical strength and constructed to withstand rough handling		N/A
	Application of a torque of 2 Nm for 1 min does not result in rotation of the plug part after rotating it until the mechanical stop prevents further rotation, both directions checked		N/A
21.101	Fan guards are subjected to a push and pull force of 20 N applied along the axis of the motor. Dangerous moving parts are not accessible with a test probe that is similar to test probe B of IEC 61032, but having a circular stop face with a diameter of 50 mm instead of the non-circular face. (IEC 60335-2-80)		P
21.102	Ceiling fans have adequate strength. Tests as described. (IEC 60335-2-80)		N/A
21.103	The functional part of an infant fan is constructed to withstand dropping that can be expected in normal use. Any parts that are loosened or become dislodged as a result of dropping do not present a choking hazard. Tests as described. (IEC 60335-2-80)		N/A
22	**CONSTRUCTION**		-
22.1	Appliance marked with the first numeral or any of the additional letters of the IP system		N/A
22.2	Stationary appliance: means to ensure disconnection from the supply being provided:		N/A
	- a supply cord fitted with a plug, or		N/A
	- a switch providing all-pole disconnection complying with 24.3, or		N/A
	- an appliance inlet		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Single-pole switches and single-pole protective devices for the disconnection of heating elements in single-phase, permanently connected class 0I and class I appliances, connected to the line conductor		N/A
22.3	Appliance provided with pins: no undue strain on socket-outlets		N/A
	Means for retaining pins withstand the forces to which the pins are like to be subjected in normal use		N/A
	Applied torque not exceeding 0,25 Nm, torque to keep the socket-outlet itself in the vertical plane not included in this value		N/A
	Pull force of 50 N for 1 min 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 1 mm		N/A
	Each pin subjected to a torque of 0,4 Nm; 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		N/A
22.5	No risk of electric shock from charged capacitors resulting in a capacitance equal or greater than 0,1 µF when touching pins, the appliance being disconnected from the supply at the instant of voltage peak		P
	Appliance supplied at rated voltage (V)..... :	240 V	P
	Voltage not exceeding 34 V (V)..... :	0 V	P
	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 test for measuring the voltage between the pins of the plug is then repeated three times, voltage not exceeding 34 V (V)..... :		N/A
22.6	Electrical insulation not affected by condensing water or leaking liquid		P
	Electrical insulation of class II appliances not affected if a hose ruptures or seal leaks		N/A
	In case of doubt, test as described		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
22.9	Insulation, internal wiring, windings, commutators and slip rings not exposed to oil, grease or similar substances, unless		P
	the substance has adequate insulating properties		P
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:		N/A
	- 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		P
	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
	The 50 N force is not applied to clips used to fasten fan guards. Instead, a force of 15 N is applied in any direction to the clips in an attempt to release them. (IEC 60335-2-80)		P
	Tests as described	Front fan guard: 50 N	P
22.12	Handles, knobs, etc. fixed in a reliable manner, if loosening could result in a hazard, including a choking hazard		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Requirement concerning the choking hazard does not apply to commercial appliances		N/A
	Removing or fixing in wrong position of handles, knobs, etc. indicating position of switches or similar components not possible, if resulting in a hazard		N/A
	No use of sealing compound and similar materials, other than self-hardening resins, to prevent loosening		N/A
	Axial force of 15 N applied for 1 min to parts unlikely to be subjected to axial pull in normal use		P
	Axial force of 30 N applied for 1 min to parts likely to be subjected to axial pull in normal use		N/A
	Loosening of removed parts not resulting in a choking hazard, checked with small parts cylinder		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		P
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		N/A
22.16	Automatic cord reels cause no undue abrasion or damage to the sheath of the flexible cord, no breakage of conductor strands and no undue wear of contacts		N/A
	Cord reel tested with 6 000 operations, as specified		N/A
	Electric strength test of 16.3, voltage of 1 000 V applied		N/A
22.17	Spacers not removable from the outside by hand or by means of a screwdriver or a spanner		N/A
22.18	Current-carrying parts and other metal parts resistant to corrosion, unless		N/A
	made from stainless steel, plated steel or similar corrosion-resistant alloys		N/A
22.19	Driving belts not relied upon to provide the required level of insulation, unless		N/A
	constructed to prevent inappropriate replacement		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
22.20	Direct contact between live parts and thermal insulation effectively prevented, unless		N/A
	material used is non-corrosive, non-hygroscopic and non-combustible, or thermal insulation is glass-wool		N/A
22.21	Wood, cotton, silk, ordinary paper and fibrous or hygroscopic material not used as insulation, unless		P
	impregnated		N/A
	Requirement not applicable to magnesium oxide and mineral ceramic fibres electrically insulating heating elements and insulating material where fibre interstices are filled with a suitable insulant		N/A
22.22	Appliances not containing asbestos		P
22.23	Oils containing polychlorinated biphenyl (PCB) not used		P
22.24	Bare heating elements, except in class III appliances or class III constructions that do not contain live parts, adequately supported		N/A
	In case of rupture, the heating conductor is unlikely to come into contact with accessible metal parts		N/A
22.25	Sagging heating conductors cannot come into contact with accessible metal parts		N/A
	Requirement not applicable to class III appliances or class III constructions without live parts, appliances where a core effectively prevents sagging, or where supplementary insulation prevents contact		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		N/A
22.27	Parts connected by protective impedance separated by double or reinforced insulation		P
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		N/A
22.29	Class II appliances permanently connected to fixed wiring constructed so that the required degree of access to live parts is maintained after installation		N/A
22.30	Parts serving as supplementary or reinforced insulation fixed so that they cannot be removed		P

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Clause	Requirement + Test	Result - Remark	Verdict
	without being seriously damaged, or		
	constructed so that they cannot be replaced in an incorrect position and if 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 in clause 29 as a result of wear		P
	Neither clearances nor creepage distances between live parts and accessible parts reduced below values for supplementary insulation if wires, screws, etc. become loose		P
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		P
	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		P
	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
	No visible cracks after 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		N/A
	unearthed metal parts separated from live parts by basic insulation only		N/A
	Electrodes not used for heating liquids		N/A
	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 are 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 are not in direct contact with reinforced insulation, unless		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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		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		P
	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 withstands the electric strength test of 16.3 for supplementary insulation		N/A
22.36	For appliances other than class III appliances, handles continuously held in the hand in normal use so constructed that when gripped as in normal use, the operator's hand is not likely to touch metal parts, unless		N/A
	they are separated from live parts by double or reinforced insulation		N/A
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		N/A
	the capacitors comply with 22.42		N/A
22.38	Capacitors not connected between the contacts of a thermal cut-out		N/A
22.39	Lampholders used only for the connection of lamps		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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		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
	These appliances are not considered to be appliances that could give rise to a hazard when operated continuously, automatically or remotely. (IEC 60335-2-80)		P
22.41	No components, other than lamps, containing mercury		N/A
22.42	Protective impedance consisting of at least two separate components		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 14.2 a) in IEC 60065:2014		N/A
	Capacitors checked by the tests for class Y capacitors in IEC 60384-14:2013 including IEC 60384-14:2013/AMD1:2016 for rated voltage of the appliance (V)..... :		N/A
22.43	Appliances adjustable for different voltages, accidental changing of the setting of the voltage unlikely to occur		N/A
22.44	Appliances not having an enclosure that is shaped or decorated like a toy, unless		p
	a toy is shaped like the appliance		N/A
	This subclause is not applicable to infant fans. (IEC 60335-2-80)		N/A
22.45	When air is used as reinforced insulation, clearances not reduced below the values in 29.1.3 due to deformation of the enclosure, applying a force of 30 N to accessible surfaces		P
22.46	For programmable protective electronic circuits used to ensure compliance with the standard, the		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	software contains measures to control the fault/error conditions in Table R.1		
	These requirements are not applicable to software used for functional purpose or compliance with clause 11		N/A
	Compliance checked by evaluating the software in accordance with the relevant requirements of normative Annex R		N/A
	If the software is modified, the evaluation and relevant tests are repeated if the modification influences the results of the test involving protective electronic circuits		N/A
22.47	Appliances connected to the water mains withstand the water pressure expected in normal use		N/A
	No leakage from any part, including any inlet water hose		N/A
22.48	Appliances connected to the water mains constructed to prevent back-siphonage of non-potable water		N/A
22.49	Not applicable. (IEC 60335-2-80)		N/A
22.50	Controls incorporated in the appliance take priority over controls actuated by remote operation		P
22.51	Not applicable. (IEC 60335-2-80)		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		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		N/A
22.54	Button cells and batteries designated R1 not accessible without the aid of a tool, unless		P
	the cover of their compartment can only be opened after at least two independent movements have been applied simultaneously		N/A
	For infant fans, button cells and batteries designated R1 are not accessible without the aid of a tool. (IEC 60335-2-80)		N/A
22.55	Devices operated to stop the intended function of the appliance, if any, are being distinguished from other manual devices by means of shape, size, surface texture, or position.....:		P

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Clause	Requirement + Test	Result - Remark	Verdict
	The requirement concerning position does not preclude use of a push on push off switch		N/A
	An indication when the device has been operated is given by:		P
	- tactile feedback from the actuator or from the appliance, or		P
	- reduction in heat output, or		N/A
	- audible and visible feedback		N/A
22.56	Detachable power supply part provided with the part of class III construction		N/A
22.57	The properties of non-metallic materials do not degrade from exposure to UV-C radiation, as specified in normative Annex T		N/A
	This requirement does not apply to glass, ceramics or similar materials		N/A
22.58	Appliances connected to the supply mains by an appliance inlet are provided with a cord set or a connector for attachment to a suitable flexible cord, except from		N/A
	- appliances complying with IEC 60320-3, or		N/A
	- single phase appliances having a rated current exceeding 16 A, connected to mains by an appliance inlet complying with IEC 60309-2, or		N/A
	- multi-phase appliances connected to mains by an appliance inlet complying with IEC 60309-2		N/A
22.59	Protective extra-low voltage circuits separated by at least supplementary insulation from circuits operating at safety extra-low voltage		N/A
22.60	Functional earthing terminals and functional earthing contacts not connected to the neutral terminal		N/A
22.61	Appliance outlets complying with the standard sheets in IEC 60320-3 accessible to the user and socket outlets accessible to the user are single phase, if:		N/A
	- they are incorporated in appliances connected to the supply mains, and		N/A
	- they operate at rated voltage		N/A
	Current rating not exceeding 16 A (A).....:		N/A
	Appliance outlets accessible to the user, other than those supplying accessories, and socket-outlets accessible to the user are protected by one of the following:		N/A
	- a circuit breaker for equipment complying with IEC 60934, or		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- a non-user replaceable fuse-link		N/A
	Current rating of protective device not exceeding current rating of the appliance outlet or socket-outlet (A).....:		N/A
	Protective device placed behind a non-detachable cover		N/A
	Current rating of appliance outlets and socket-outlets marked with the outlet load in watts, obtained from the market outlet load divided by the rated voltage (A)..... :		N/A
22.62	Remote communication through public networks does not impair compliance with this standard		N/A
	The requirement does only apply to remote communication where the download of software or the transmission of data:		N/A
	a) includes measures according to normative Annex R necessary for compliance with 22.46, or		N/A
	Includes means necessary for compliance with Clauses 8 to 32		N/A
	b) only affects the software part that is not covered by a), but where compliance might be impaired due to improper separation of partitioning from the software or data in a)		N/A
	The requirement does not apply to appliances:		N/A
	- where all measures to comply with this standards are independent of software,		N/A
	- using remote communication through public networks for the send-only transmission of data, or		N/A
	- that only provide event driven messages or push remote monitoring		N/A
	Compliance checked by inspection of the product and the technical documentation, and by the requirements and tests in normative Annex U		N/A
22.101	Appliances having provision for attaching a luminaire incorporate appropriate terminals and internal wiring. The internal wiring associated with the luminaire has insulation at least equivalent to silicone rubber compound type IE2 complying with IEC 60245-3. This requirement is not applicable to fans incorporating a luminaire that cannot be replaced without breaking the appliance. (IEC 60335-2-80)		N/A
22.102	The functional part of infant fans is class III		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	construction with a working voltage of no more than 24 V. (IEC 60335-2-80)		
22.103.1	The ceiling fan is constructed so that a failure of the fixing device of the motor to the mounting rod could not give rise to risk of injury to the user or surroundings. (IEC 60335-2-80)		N/A
22.103.2	The ceiling fan incorporates a device that disconnects the fan from the supply before the suspension system fails. An example of this construction is shown in Figure 102. Tests as described. (IEC 60335-2-80)		N/A
22.103.3	The ceiling fan is constructed so that the fan motor and blades do not fall more than 300 mm after failure of the suspension system and the fan is disconnected from the supply. An example of this construction is shown in Figure 104. Tests as described.(IEC 60335-2-80)		N/A
22.103.4	The ceiling fan is constructed so that the fan blades and motor are connected to the suspension system via a threaded down rod that is locked by means of one or more setscrews. An example of this construction is shown in Figure 105. (IEC 60335-2-80)		N/A
22.103.5	The ceiling fan is constructed so that an additional through bolt, lock washer and nut, or the like limits the distance of drop by no more than 75 mm in case of the suspension system failure. An example of this construction is shown in Figure 106. (IEC 60335-2-80)		N/A
22.103.6	The ceiling fan is constructed so that all components required to prevent the failure of the suspension system are treated or coated to resist corrosion. Any fixing bolts have a minimum diameter of 5 mm and a minimum tensile strength of 200 MPa. Any such bolts have provision to prevent them working loose due to vibration. An example of this construction is shown in Figure 107. (IEC 60335-2-80)		N/A
23	**INTERNAL WIRING**		-
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

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	Wiring effectively prevented from coming into contact with moving parts		P
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		P
	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
	Appliance supplied at rated voltage.....:		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
	Instead of moving the movable part backwards and forwards, fans with an oscillating mechanism are tested specified. (IEC 60335-2-80)		N/A
	Electric strength test of 16.3, 1 000 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 15 W		N/A
23.4	Bare internal wiring sufficiently rigid and fixed		N/A
23.5	No use of a single layer of internal wiring insulation to provide reinforced insulation		N/A
	For class II construction, the sheath of a cord complying with IEC 60227 or IEC 60245 or IEC 62821 may provide supplementary insulation		p
	Insulation of single layer internal wiring subjected to the supply mains voltage withstands the electrical stress likely to occur in normal use, if:		P
	- insulation of single layer internal wiring electrically equivalent to the basic insulation of cords complying with IEC 60227 or IEC 60245 or IEC		P

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	62821, or		
	- no breakdown when a voltage of 2 000 V is applied for 15 min between the conductor and metal foil wrapped around the insulation		P
23.6	Sleeving used as supplementary insulation on internal wiring retained in position by clamping at both ends, or		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		N/A
23.8	Aluminium wires not used for internal wiring		N/A
	The requirement does not apply to windings		N/A
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		P
	The requirement does not apply to the soldered tip of a stranded conductor		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), checked as specified		N/A
24	**COMPONENTS**		-
24.1	Components comply with safety requirements in relevant IEC standards		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		P
	Relays tested as part of the appliance, or		N/A
	alternatively, acc. to IEC 60730-1:2013 including IEC 60730-1:2013/AMD1:2015, and meeting the additional requirements in IEC 60335-1		P
	The requirements of Clause 29 apply between live parts of components and accessible parts of the appliance		P
	Components can comply with the requirements for clearances and creepage distances for functional insulation in the relevant component standard		P

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	30.2 of this standard applies to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections		P
	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		P
	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 that the specified conditions are met		N/A
	If these conditions are not satisfied, the component is tested as part of the appliance		P
	Power electronic converter circuits not required to comply with IEC 62477-1, they are tested as part of the appliance		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		P
	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		P
	Components not tested and found to comply with relevant IEC standard and components not marked or not used according to their marking, tested under the conditions occurring in the appliance		N/A
	Lampholders and starterholders not being previously tested and found to comply with the relevant IEC standard, tested as a part of the appliance and additionally complying with the gauging and interchangeability requirements of the relevant IEC standard under the conditions occurring in the appliance		N/A
	No additional tests specified for nationally standardized plugs such as those detailed in IEC TR 60083 or connectors or plug connectors complying with the standard sheets of IEC 60320-3 or connectors complying with the standard sheets of IEC 60309-2		N/A
24.1.1	Capacitors likely to be permanently subjected to the supply voltage and used for radio interference		N/A

IEC 60335-2-80				
Clause	Requirement + Test		Result - Remark	Verdict
	suppression or for voltage dividing comply with IEC 60384-14:2013 including IEC 60384-14:2013/AMD1:2016			
	If the capacitors have to be tested, they are tested according to normative Annex F			N/A
24.1.2	Transformers in associated switch mode power supplies comply with Annex BB of IEC 61558-2-16:2009 including IEC 61558-2-16:2009/AMD1:2013			N/A
	Safety isolating transformers comply with IEC 61558-2-6:2009			N/A
	If they have to be tested, they are tested according to normative Annex G			N/A
24.1.3	Switches comply with IEC 61058-1:2016, number of cycles of operation being at least 10 000, unless			N/A
	the appliance meets the requirements of this standard when they are rendered inoperative, then the number of cycles need not to be declared for 7.4 of IEC 61058-1:2016			P
	If they have to be tested, they are tested according to normative 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 60730-1:2013 including IEC 60730-1:2013/AMD1:2015 together 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			N/A

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	meets the requirements of this standard when they are short-circuited or rendered inoperative		
	If automatic controls have to be tested, additionally tested in accordance with 11.3.5 to 11.3.8 and Clause 17 of IEC 60730-1:2013 including IEC 60730-1:2013/AMD1:2015 as type 1 controls, tests of Clauses 12, 13 and 14 not carried out before the test of Clause 17		N/A
	Thermal motor protectors are tested in combination with their motor under the conditions specified in normative Annex D		N/A
	For water valves containing live parts and that are incorporated in external hoses for connection of an appliance to the water mains, degree of protection declared for 6.5.2 of IEC 60730-2-8:2018 is IPX7		N/A
	Thermal cut-outs of the capillary type comply with the requirements for type 2.K controls in IEC 60730-2-9:2015 including 60730-2-9:2015/AMD1:2018		N/A
24.1.5	Appliance couplers comply with IEC 60320-1		N/A
	However, for appliances classified higher than IPX0, the appliance couplers comply with IEC 60320-2-3		N/A
24.1.6	Small lampholders similar to E10 lampholders comply with IEC 60238, the requirements for E10 lampholders being applicable		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		N/A
24.1.8	Thermal links comply with IEC 60691		N/A
24.1.9	Contactors and relays, other than motor starting relays, tested as part of the appliance		N/A
	They are also tested in accordance with Clause 17 of IEC 60730-1:2013 including IEC 60730-1:2013/AMD:2015, the number of cycles of operations in 24.1.4 selected according to the contactor or relay function in the appliance.....:		N/A
24.1.10	Lamps and lamp systems that have not been previously tested and found to comply with the exempt group classification of IEC 62471:2006 GLS regarding E_S and E_{UVA}:		N/A
	- tested as part of the appliance		N/A
	- comply with the requirements of Clause 32 under the conditions occurring in the appliance		N/A

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	Unless otherwise specified, the following components are considered to comply with the specified GLS classification:		N/A
	- visible light indicators		N/A
	- infrared sources used for signalling or communication		N/A
	- seven-segment indicators		N/A
	- liquid crystal displays		N/A
	- organic LED displays (OLED)		N/A
	- plasma displays		N/A
24.1.11	Cord sets required to be provided with the appliance comply with IEC 60799		N/A
	Cord sets with cords complying to IEC 62821-3 allowed		N/A
24.2	Appliances not fitted with:		P
	- switches, automatic controls, power supplies and the like in flexible cords		P
	- 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
	Switches or automatic controls in flexible cords are allowed for appliances not exceeding 25 W. (IEC 60335-2-80)		N/A
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		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, appliance inlets, plug connectors and appliance outlets complying with the standard sheets of IEC 60320-3		N/A
24.5	Capacitors in auxiliary windings of motors marked with their voltage rating and their rated capacitance, and used accordingly		N/A

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	Voltage across capacitors in series with a motor winding does not exceed 1,1 times its voltage rating, when the appliance is supplied at 1,1 times rated voltage under minimum load (V)..... :	1.1×240 V	P
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 (V)..... :		N/A
	In addition, the motors comply with the requirements of normative Annex I		N/A
24.7	Detachable hose-sets for connection of appliances to the water mains comply with IEC 61770		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		P
	One or more of the following conditions are met:		P
	- the capacitors are of class S2 or S3 according to IEC 60252-1:2010 including IEC 60252-1:2010/AMD1:2013		P
	- 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 normative Annex E		N/A
	- adjacent non-metallic parts within 50 mm classified as at least V-1 according to IEC 60695-11-10		N/A
	For capacitors complying with IEC 60252-1:2010 including IEC 60252-1:2010/AMD1:2013, damp heat test for 5.14 of that standard with severity parameters as specified		N/A
24.101	Thermal cut-outs incorporated in duct fans in order to comply with cl. 19 are not self-resetting thermal cut-out. (IEC 60335-2-80)		N/A
25	**SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CORDS**		-

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
	- pins for insertion into socket-outlets		P
25.2	Appliance not provided with more than one means of connection to the supply mains		P
	Stationary appliance for multiple supply may be provided with more than one means of connection, provided electric strength test of 1 250 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
	- cord anchorage and 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
25.4	Cable and conduit entries, rated current of appliance not exceeding 16 A, dimension according to Table 10 (mm) :		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:		P

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	- type X attachment		N/A
	- type Y attachment		P
	- type Z attachment, allowed for portable fans.(IEC 60335-2-80)		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		N/A
25.6	Plugs fitted with only one flexible cord		P
25.7	Supply cords, other than for class III appliances, being one of the following types:		P
	- rubber sheathed (at least 60245 IEC 53), unless		N/A
	The appliance is intended to be used outdoors or is liable to being exposed to ultraviolet radiation		N/A
	- polychloroprene sheathed (at least 60245 IEC 57),		N/A
	supply cords being allowed to be connected to appliances intended for use in low temperature		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		P
	•light polyvinyl chloride sheathed cord (60227 IEC 52), for appliances not exceeding 3 kg		N/A
	•ordinary polyvinyl chloride sheathed cord (60227 IEC 53), for other appliances		P
	- heat resistant polyvinyl chloride sheathed. Not used for type X attachment other than specially prepared cords		N/A
	•heat-resistant light polyvinyl chloride sheathed cord (60227 IEC 56), for appliances not exceeding 3 kg cord (60227 IEC 56), for appliances not exceeding 3 kg		N/A
	•heat-resistant polyvinyl chloride sheathed cord (60227 IEC 57), for other appliances		N/A
	- halogen-free, low smoke, thermoplastic insulated and sheathed		N/A
	• light duty halogen-free low smoke flexible cable (62821 IEC 101) for circular cable and (62821 IEC 101f) for flat cable		N/A
	• Ordinary duty halogen-free low smoke flexible cable (62821 IEC 102) for circular cable		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	and (62821 IEC 102f) for flat cable		
	Supply cords for class III appliances adequately insulated		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 (mm²)..... :	2×0.75	P
25.9	Supply cords for class III appliances adequately insulated		N/A
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
	Where additional neutral conductors are provided in the supply cord:		N/A
	- other colours may be used for these additional neutral conductors;		N/A
	- all of the neutral conductors and line conductors are identified by marking using the alphanumeric notation specified in IEC 60445		N/A
	- the supply cord is fitted to the appliance		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		P
	The requirement does not apply to the soldered tip of a stranded conductor		N/A
25.12	Insulation of the supply cord not damaged when moulding the cord to part of the enclosure		P
25.13	Inlet openings so constructed as to prevent damage to the supply cord		N/A
	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 0 appliance, or		N/A
	- a class III appliance not containing live parts		N/A

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
25.14	Supply cords moved while in operation adequately protected against excessive flexing, unless		N/A
	appliance is fitted with automatic cord reels complying with the requirement and test of 22.16		N/A
	Flexing test, as described:		N/A
	Conductors supplied at rated voltage (V)..... :		N/A
	Conductors loaded with rated current (A):.....:		N/A
	- applied force (N).....:		N/A
	- number of flexings :		N/A
	The test does not result in		N/A
	- 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
	- 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		N/A
	he 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 N/A
	Cord not damaged and max. 2 mm displacement of the cord		
25.16	Cord anchorages for type X attachments constructed and located so that:		N/A
	- replacement of the cord is easily possible		N/A
	- it is clear how the relief from strain and the prevention of twisting are obtained		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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
	it is part of a specially prepared cord		N/A
	Not applicable if the cord anchorage comprises one or more clamping members subjected to pressure by means of nuts engaging with securely attached studs, even if removal possible, or if		N/A
	one clamping member is fixed to the appliance or obviously shaped insulating material is used as the surface of the appliance		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 class 0, 0I and 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
	Compliance checked by inspection and by the test of 25.15 under the following conditions:		N/A
	- carried out with lightest permissible type of cord of the smallest cross-sectional area specified in Table 13, then with next heavier type cord having the largest cross-sectional area specified, however	(See appended table)	N/A
	if the appliance is fitted with a specially prepared cord, test carried out with this cord		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- conductors placed in the terminals and any terminal screws tightened to prevent the conductors from easily changing their position		N/A
	- clamping screws of the cord anchorage tightened with two-thirds of the torque specified in 28.1		N/A
	- screws of insulating material bearing directly on the cord fastened with two-thirds of the torque specified in column I of Table 14, the length of the slot in the screw head being taken as the nominal diameter of the screw		N/A
	After the test, 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	Attachment Type Y	P
	For Type Z attachment compliance checked by the test of 25.15 with the cord supplied with the appliance		N/A
	For Type Y attachment compliance checked by the test of 25.15 with the cord supplied with the appliance and designated alternative types (if any	(see appended table)	P
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		P
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
	The conductors of the supply cord for type Y and Z attachment insulated from accessible metal parts		P
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
	- 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

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	2 N test to the conductor for portable appliances; no contact with accessible metal parts		N/A
25.22	Appliance inlets:		N/A
	- live parts not accessible during insertion or removal		N/A
	Requirement not applicable to appliance inlets complying with IEC 60320-1		N/A
	- connector can be inserted without difficulty		N/A
	- the appliance is not supported by the connector		N/A
	- not for cold conditions if temp. rise of external metal parts exceeds 75 K during clause 11, unless		N/A
	the flexible cord of the cord set is unlikely to touch such metal parts		N/A
25.23	Interconnection cords comply with the requirements for the supply cord, except that:		N/A
	- the cross-sectional area of the conductors is determined based on the maximum current during clause 10, and		N/A
	- the thickness of the insulation may be reduced		N/A
	for class I or class II appliance with class III construction, the cross-sectional areas of the conductors need not comply with 25.8 if specified conditions are met		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		P
	Dimensions of pins and engagement face in accordance with the dimensions of the relevant plug in IEC TR 60083		P
26	**TERMINALS FOR EXTERNAL CONDUCTORS**		-
26.1	Appliances provided with terminals or equally effective devices, such as male tabs of flat quick-connect terminations (IEC 61210), screw type terminals (IEC 60998-2-1), screwless terminals (IEC 60998-2-2) and clamping units (IEC 60999-1:1999), for connection of external conductors		P
	Terminals only accessible after removal of a non-		P

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Clause	Requirement + Test	Result - Remark	Verdict
	detachable cover, except		
	for class III appliances that do not contain live parts		N/A
	Earthing terminals and functional 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 of 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 constructed so 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 60999-1:1999, 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
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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	preparation of conductors such as by soldering, use of cable lugs, eyelets or similar,		
	Reshaping of the conductor before its introduction into the terminal or twisting a stranded conductor to consolidate the end is not considered special preparation		N/A
	Terminals constructed or placed so 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 (mm²)..... :		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
	ends of conductors 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		P
	For class II appliances, the conductor so positioned		P

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Clause	Requirement + Test	Result - Remark	Verdict
	or fixed that reliance is not placed on soldering, welding or crimping alone		
	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**		-
27.1	Accessible metal parts, including metal parts behind a decorative cover that does not withstand the test of 21.1, of class 0I and I appliances permanently and reliably connected to an earthing terminal or earthing contact of the appliance inlet		N/A
	Earthing terminals and earthing contacts not connected to the neutral terminal		N/A
	Class 0, II and III appliances have no provision for protective earthing		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 mm2 to 6 mm2, 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
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
	The allowed travel of the live and neutral brushes due to wear is less than the allowed travel of the earth brush so that the earthing circuit is maintained even after the appliance ceases to operate due to live and neutral brush wear.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	(IEC 60335-2-80)		
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, thickness of at least 5 mm		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
	In case of doubt, thickness of coating measured as described in ISO 2178 or in ISO 1463		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(V)..... :		N/A
	Resistance not exceeding 0,1 W at the specified low-resistance test (W)..... :		N/A
	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
28	**SCREWS AND CONNECTIONS**		-
28.1	Fixings, electrical connections and connections providing earthing continuity withstand mechanical stresses		P
	Screws not of soft metal liable to creep, such as zinc or aluminium		P
	Diameter of screws of insulating material min. 3 mm		N/A
	Screws of insulating material not used for any electrical connections or connections providing		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	earthing continuity		
	Screws used for electrical connections or connections providing earthing continuity screwed into metal		N/A
	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		N/A
	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
	- 30.2.2 is applicable and that carry a current not exceeding 0,5 A		N/A
	- 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		N/A
	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 N/A
	Thread-cutting (self-tapping) screws not used if they are likely to be operated by the user or installer		
	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
	- in normal use,		N/A
	- during user maintenance,		N/A
	- when replacing a supply cord having a type X		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	attachment, or		
	- 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 by means such as spring washer, lock washers and crown type locks, if they also make electrical connections or connections providing earthing continuity		N/A
	For screw connections not subjected to torsion, sealing compound that softens on heating allowed to be used to provide security against loosening		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
	If connections subjected to torsion, a rivet having a non-circular shank or an appropriate notch allowed to be used to secure against loosening		N/A
29	**CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION**		-
	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), normative 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 60664-3:2016		P
	These values apply to functional, basic, supplementary and reinforced insulation.....:		P
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,	(See appended table)	P

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Clause	Requirement + Test	Result - Remark	Verdict
	unless..... :		
	for basic insulation and functional insulation, they comply with the impulse voltage test of clause 14		N/A
	For appliances intended for use at altitudes exceeding 2 000 m, the clearances in Table 16 are increased according to the altitude correction factor in Table A.2 of IEC 60664-1:2007		N/A
	However, the impulse voltage test is not applicable if the construction is such that the distances could be affected by any of the following:		P
	- distortion		N/A
	- movement of parts		P
	- assembly of parts		N/A
	- wear of basic insulation		N/A
	- wear of functional insulation		N/A
	In this case, the clearances for rated impulse voltages of 1 500 V and above specified in Table 16 are increased by 0,5 mm		P
	Impulse voltage test is not applicable:		P
	- when the microenvironment is pollution degree 3, or		P
	- for basic insulation of class 0 and class 0I appliances, or		N/A
	- to appliances intended for use at altitudes exceeding 2 000 m		N/A
	Appliances are in overvoltage category II		P
	A force of 2 N is applied to bare conductors, other than heating elements		P
	A force of 30 N is applied to accessible surfaces		P
29.1.1	Clearances of basic insulation withstand the overvoltages, taking into account the rated impulse voltage		P
	The values of Table 16 or the impulse voltage test of clause 14 are applicable..... :	(See appended table)	P
	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		P
29.1.2	Clearances of supplementary insulation not less	(See appended table)	P

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Clause	Requirement + Test	Result - Remark	Verdict
	than those spec. for basic insulation in Table 16.. :		
29.1.3	Clearances of reinforced insulation not less than those specified in Table 16, using the next higher step for rated impulse voltage..... :	(See appended table)	P
	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)	P
	- Table F.7a in IEC 60664-1:2007, frequency not exceeding 30 kHz		P
	- clause 4 of IEC 60664-4:2005, 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		P
	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		P
	However, clearances at crossover points are not measured		N/A
	Clearance between surfaces of PTC heating elements may be reduced to 1 mm		N/A
29.1.5	Appliances having higher working voltages than rated voltage, clearances for basic insulation are the largest values determined from: Working voltage >…….V		N/A
	- Table 16 based on the rated impulse voltage..... :		N/A
	- Table F.7a in IEC 60664-1:2007, frequency not exceeding 30 kHz		N/A
	- clause 4 of IEC 60664-4:2005, frequency exceeding 30 kHz		N/A
	If clearances for basic insulation are selected from Table F.7a of IEC 60664-1:2007 or Clause 4 of IEC 60664-4:2005, the clearances of supplementary insulation are not less than those specified for basic		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	insulation		
	If clearances for basic insulation are selected from Table F.7a of IEC 60664-1:2007, 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 60664-4:2005, the clearances of reinforced insulation are twice the value required for basic insulation		N/A
	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		P
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)	P
	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		P
	Microenvironment is pollution degree 3 unless insulation is enclosed or located that it is unlikely to be exposed to pollution during normal use. (IEC 60335-2-80)		N/A
	A force of 2 N is applied to bare conductors, other than heating elements		P
	A force of 30 N is applied to accessible surfaces		P
	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)	P

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Clause	Requirement + Test	Result - Remark	Verdict
	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 60664-4:2005, 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
	Creepage distances of supplementary insulation at least those specified for basic insulation in Table 17, excluding NOTE 1 and NOTE 2, or.....:	(See appended table)	P
	Table 2 of IEC 60664-4:2005, as applicable :		N/A
29.2.3	Creepage distances of reinforced insulation at least double those specified for basic insulation in Table 17, excluding NOTE 1 and NOTE 2, or.....:	(See appended table)	P
	Table 2 of IEC 60664-4:2005, 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 60664-4:2005, 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		P
	Compliance checked:		P
	- by measurement, in accordance with 29.3.1, or		P
	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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	each single layer internal wiring insulation touching each other, or		
	- as specified in subclause 6.3 of IEC 60664-4:2005 for insulation that is subjected to any periodic voltage having a frequency exceeding 30 kHz		N/A
29.3.1	Supplementary insulation; thickness at least 1 mm		P
	Reinforced insulation; thickness of at least 2 mm		P
29.3.2	Each layer of material withstands the electric strength test of 16.3 for supplementary insulation		N/A
	Supplementary insulation consists of at least 2 layers		N/A
	Reinforced insulation consists of at least 3 layers		N/A
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**		-
30.1	External parts of non-metallic material,		P
	parts supporting live parts, and		P
	parts of thermoplastic material providing supplementary or reinforced insulation		P
	sufficiently resistant to heat		P
	This requirement does not apply to:		P
	- the insulation or sheath of flexible cords or internal wiring		P
	- those parts of coil formers that do not support or retain terminals in position		P
	- parts of ceramic material		N/A
	Ball-pressure test according to IEC 60695-10-2		P
	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)	P

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Clause	Requirement + Test	Result - Remark	Verdict
	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)	P
30.2	Parts of non-metallic material resistant to ignition and spread of fire		P
	This requirement does not apply to:		P
	- parts of 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		P
	- decorative trims, knobs and other parts unlikely to be ignited or to propagate flames that originate inside the appliance		N/A
	Compliance checked by the test of 30.2.1, and in addition:		P
	- for attended appliances, 30.2.2 applies		N/A
	- for unattended appliances, 30.2.3 applies		P
	For appliances for remote operation, 30.2.3 applies		P
	For parts of appliances connected to the supply mains during charging, 30.2.3 applies		N/A
	For base material of printed circuit boards, 30.2.4 applies		P
30.2.1	Parts of non-metallic material subjected to the glow-wire test of IEC 60695-2-11:2014 at 550 °C	(See appended table 30.2)	P
	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	Not applicable. (IEC 60335-2-80)		N/A
30.2.3	Appliances operated while unattended, tested as specified in 30.2.3.1 and 30.2.3.2		P
	The tests are not applicable to conditions as specified.....:		N/A
30.2.3.1	Parts of non-metallic material supporting		P

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Clause	Requirement + Test	Result - Remark	Verdict
	connections, such as switch contacts and the like in other components, carrying a current exceeding 0,2 A during normal operation, Note: Appliance supplied at rated voltage (V)..... : and		
	parts of non-metallic material, other than small parts, within a distance of 3 mm,		P
	subjected to the glow-wire test of IEC 60695-2-11:2014 with a test severity of 850 °C	(See appended table 30.2)	P
	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, such as switch contacts and the like in other components, and		P
	parts of non-metallic material within a distance of 3 mm,		P
	subjected to the glow-wire test of IEC 60695-2-11:2014 with appropriate severity level:	(See appended table 30.2)	P
	- 750 °C, for connections carrying a current exceeding 0,2 A during normal operation Note: Appliance supplied at rated voltage (V)..... :		P
	- 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
	775 °C, for connections carrying a current exceeding 0,2 A during normal operation Note: Appliance supplied at rated voltage (V)..... :		N/A
	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		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Note: Appliance supplied at rated voltage (V)..... :		
	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 normative 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 60695-2-11:2014 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 normative 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
	- parts shielded by a flame barrier that meets the needle-flame test of normative Annex E or that comprises material classified as V-0 or V-1		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	according to IEC 60695-11-10		
	No battery in the area of the vertical cylinder used for the consequential needle flame test, unless		N/A
	battery shielded by a barrier that meets the needle flame test of normative 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 normative Annex E	(See appended table 30.2/30.2.4)	N/A
	Test not applicable to conditions as specified..... :	V-0	P
31	**RESISTANCE TO RUSTING**		-
	Relevant ferrous parts adequately protected against rusting		N/A
	Tests specified in part 2 when necessary		N/A
32	**RADIATION, TOXICITY AND SIMILAR HAZARDS**		-
32.1	Appliance does not emit harmful radiation or present a toxic or similar hazard due to their operation in normal use		N/A
	Compliance is checked by the limits or tests specified in part 2, if relevant		N/A
32.2	Appliance do not present an optical radiation hazard due to their operation in normal use		N/A
	Requirement does not apply to lamps and lamp systems that comply with 24.1.10		N/A
	Compliance checked as follows		N/A
	appliance supplied at rated voltage (V).....: Note: Generally 50 Hz is the most unfavourable frequency.		N/A
	- Radiation assessment at or recalculated to 200 mm distance or at fixed use distance, measurement as described in IEC 62471:2006		N/A
	- For lamps or lamp systems intended to illuminate objects, tested at the GLS assessment distance producing 500 lux as described in IEC 62471:2006		N/A
	- Appliance complies with exempt group classification requirements of IEC 62471:2006 regarding actinic ultraviolet hazard (E_S) and near-UV hazard (E_{UVA})		N/A
A	**ANNEX A (INFORMATIVE) ROUTINE TESTS**		-

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Clause	Requirement + Test	Result - Remark	Verdict
	Description of routine tests to be carried out by the manufacturer		N/A
B	**ANNEX B (NORMATIVE) BATTERY-OPERATED APPLIANCES, SEPARABLE BATTERIES AND DETACHABLE BATTERIES FOR BATTERY-OPERATED APPLIANCES**		-
	The following modifications to this standard are applicable to:		N/A
	- battery-operated appliances and remote controls employing non-rechargeable batteries (primary batteries)		N/A
	- battery-operated appliances and remote controls employing rechargeable batteries (secondary batteries)		N/A
	- detachable and separable batteries for battery-operated appliances		N/A
B.3.1.1	Battery-operated appliance operated under the following conditions:		N/A
	- for appliances operated with detachable or separable batteries disconnected from the appliance for charging, appliance operated to perform its intended function with a fully charged battery, the battery being the model or type reference of the battery provided or indicated in the instructions		N/A
	- for appliances operated with integral or separable batteries not disconnected from the appliance for charging, and that cannot perform their intended function while batteries are being charged, appliance operated to perform its intended function with a fully charged battery		N/A
	- for appliances operated with replaceable batteries, including integral replaceable batteries, or non-rechargeable batteries, appliance operated to perform its intended function with the artificial source described in B5.3, upper limit short circuit current capacity specified in Table B.1		N/A
B.3.6.1	Non-rechargeable battery: battery is supplied in a fully charged state and cannot be recharged after		N/A
5.2	Tests of B.19.1 to B.19.6 carried out on separate samples		N/A
5.8.1	This subclause is not applicable		N/A
5.8.2	This subclause is not applicable		N/A
5.8.3	This subclause is not applicable		N/A
5.8.4	This subclause is not applicable		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.5.1	Before starting a test requiring a fully charged battery, battery fully charged, disconnected from source and allowed to rest between 2 h and 6 h		N/A
B.5.2	Specification of a rated voltage implies the use of a fully charged battery		N/A
	For battery-operated appliances, where the supply terminal connecting the battery have no indication of polarity, the more unfavourably polarity applied, unless		N/A
	such a connection unlikely to occur due to the construction of the appliance		N/A
B.5.3	When specified that a battery provided with or intended for the appliance may be replaced by an artificial source, that source consists of a DC power supply or a specially constructed battery, output of each as described in Table B.1 for the relevant battery type		N/A
6.1	Battery-operated appliances without a supply connection or a functional earth connection not classified with respect to protection against electric shock		N/A
7.1	Battery-operated appliances and remote controls containing batteries marked with the:		N/A
	- name, trademark 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 the battery, if battery either not recharged in the appliance or non-rechargeable		N/A
	Appliances incorporating replaceable batteries marked with:		N/A
	- battery type reference		N/A
	- battery voltage (V).....:		N/A
	- polarity of the terminals, unless		N/A
	incorrect insertion of battery by the user unlikely to occur due to the construction of the appliance		N/A
	If more than one battery type can be used with the appliance, appliance marked with the type reference of at least one of the battery types that can be used, together with:		N/A
	- symbol ISO 7000-0790 (2004-01), or		N/A
	- the substance of the following:		N/A
	See instruction manual for additional battery types.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	If appliances use more than one battery, appliance marked to indicate correct polarity connection of the batteries		N/A
	If relevant, positive terminal indicated by symbol IEC 60417-5005 (2002-10), and		N/A
	negative terminal indicated by symbol IEC 60417-5006 (2002-10)		N/A
	Detachable and separable batteries 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
	Detachable and separable batteries disconnected from the appliance for charging the battery marked with:		N/A
	- symbol ISO 7000-0790 (2004-01)		N/A
	- symbol IEC 60417-6413 (2019-05)		N/A
	- model or type reference of the battery charger, or the substance of the following:		N/A
	Use only with <model or type reference> battery charger..... :		N/A
	If more than one battery charger can be used to charge a detachable and separable battery disconnected from the appliance for charging, battery marked with the type reference of at least one of the battery charges that can be used, together with		N/A
	either symbol ISO 7000-0790 (2004-01), or the substance of the following:		N/A
	See instruction manual for additional battery chargers.		N/A
	Batteries that are user replaceable, other than general purpose batteries, marked with the:		N/A
	- name, trademark or identification mark of the manufacturer or responsible vendor		N/A
	- model or type reference		N/A
	- nominal voltage (V).....:		N/A
7.6	Additional symbols		N/A
7.12	Instructions provided with the appliance		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	For appliances intended for use at altitudes exceeding 2 000 m, maximum altitude stated		N/A
	If necessary, appropriate details on precautions during user maintenance stated		N/A
	The instructions state the substance of the following:		N/A
	This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.		N/A
	For appliances incorporating batteries intended to be removed for charging or intended to be replaced by the user and that can be contained in the small parts cylinder, the instructions state the substance of the following:		N/A
	WARNING: Keep out of reach of children. Swallowing can lead to chemical burns, perforation of soft tissue, and death. Severe burns can occur within 2 h of ingestion. Seek medical attention immediately.		N/A
	For appliances intended for use with batteries that use metal-ion chemistries, the instructions state the normal temperature range for charging		N/A
	For battery-operated appliances, the instructions contain the following information, as applicable:		N/A
	- battery type		N/A
	- details regarding safe disposal of used batteries		N/A
	- how to deal with leaking batteries		N/A
	For battery-operated appliances, the instructions contain the substance of the following:		N/A
	- do not expose the appliance or battery to excessive temperatures		N/A
	- be aware of the risk of terminals of the battery-operated appliance or battery being short-circuited by metal objects		N/A
	For battery-operated appliances containing non-rechargeable batteries, the instructions state the substance of the following:		N/A
	This appliance contains non-rechargeable batteries, these batteries are not to be recharged.		N/A
	For battery-operated appliances containing non-user-replaceable batteries, the		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	instructions state the substance of the following:		
	This appliance contains batteries that are only replaceable by skilled persons.		N/A
	For battery-operated appliances containing non-replaceable batteries, the instructions state the substance of the following:		N/A
	This appliance contains batteries that are non-replaceable. When the battery is at end of life, the appliance shall be properly disposed of.		N/A
	For battery-operated appliances incorporating batteries intended to be removed for charging or replaced by the user, the instructions include, as applicable, the substance of the following:		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
	- 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 should be removed		N/A
	- do not use non-rechargeable batteries in place of rechargeable batteries		N/A
	- do not use modified or damaged batteries		N/A
	For battery-operated appliances incorporating batteries intended to be removed for charging or replaced by the user, the instructions include, as applicable, the following information:		N/A
	battery type reference		N/A
	- orientation of the battery with regard to polarity		N/A
	- method of replacing batteries including maintaining correct polarity		N/A
	For battery-operated appliances incorporating batteries intended to be removed prior to disposal of the appliance, the instructions include details regarding their safe removal and disposal		N/A
	For battery-operated appliances that use detachable and separable batteries disconnected from the appliance for charging, the instructions include the model or type reference of the battery charger to be used, along with the substance of the following:		N/A
	WARNING: Use only with <model or type reference> battery charger.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	If the symbol for battery charger is used, its meaning is explained		N/A
7.15	Markings specified for batteries intended to be replaced by the user are in or adjacent to the battery compartment		N/A
	Marking to indicate correct polarity connection of the batteries specified for appliances using more than one general purpose battery is in or adjacent to the battery compartment		N/A
	Type reference of battery charger placed next to symbol IEC 60417-6413 (2019-05)		N/A
8	This clause is not applicable to the appliance functional part of a battery-operated appliance and its batteries, providing the battery circuits do not have an earth or mains connection		N/A
10.1	This subclause is not applicable		N/A
10.2	This subclause is not applicable		N/A
11.1	Battery operated appliances, their surroundings, and batteries not attaining excessive temperatures in normal use		N/A
	Compliance tested under the conditions specified in B.11.1, 11.2, 11.3, 11.7 and 11.8		N/A
11.4	This subclause is not applicable		N/A
11.5	This subclause is not applicable		N/A
11.6	This subclause is not applicable		N/A
B.11.1	Battery-operated appliances tested under the conditions of normal operation		N/A
	For appliances operated with detachable or separable batteries disconnected for charging, appliance operated until depletion of battery and test repeated with fully charged battery until it depletes or until temperature rises have stabilized as specified, whichever occurs first		N/A
	For appliances incorporating integral or separable batteries not disconnected for charging, and that cannot perform while batteries are being charged, appliance operated until depletion of batteries		N/A
	For appliances operated with replaceable or non-rechargeable batteries, appliance operated until the minimum capacity of the battery as specified in Table B.1 has been delivered or until steady conditions are established, whichever occurs first		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
19.1	For battery-operated appliances, instead of the tests specified, tests of 19.2, 19.4, 19.7, 19.9, 19.11, 19.12, 19.14, 19.15, B.19.1 to B.19.5		N/A
	Detachable and separable batteries also subjected to the test of B.19.6		N/A
	For battery-operated appliances, tests carried out under normal operation		N/A
19.2	Appliances with heating elements tested under the conditions specified in Clause 11 but with restricted heat dissipation		N/A
19.7	Battery-operated appliance switched on and operated under stalled conditions by:		N/A
	- locking the rotor of appliances for which the locked rotor torque is smaller than the full load torque		N/A
	- locking moving parts of other appliances		N/A
	If an appliance has more than one motor, test carried out for each motor separately		N/A
	Test conducted at both I_{sc} (high) and I_{sc} (low), if testing with the artificial source described in B.5.3		N/A
	Test conducted:		N/A
	- until the test sample achieves a steady condition, including returning to room temperature, or		N/A
	- until at a time period of at least 3 h has elapsed		N/A
19.11	Electronic circuits checked by evaluation of the fault conditions specified in 19.11.2 for all circuits or parts of circuits, unless they comply with the conditions specified in 19.11.1		N/A
	Appliances having a device with an off position obtained by electronic disconnection, or a device that can place 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, test of 19.12 carried out, and		N/A
	the appliance complies with the conditions specified in 19.13		N/A
	If a conductor of a printed circuit board becomes open-circuited, the appliance is considered to have withstood the particular test, provided that the base material of the printed circuit board withstands the		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	test of normative Annex E		
19.11.2	When any of the fault conditions simulated, duration of test until steady conditions		N/A
19.11.4	Appliances having a device with an off position obtained by electronic disconnection, or a device that can be placed in the stand-by mode, subjected to the tests of 19.11.4.1 and 19.11.4.2		N/A
	Tests carried out with the appliance supplied by a fully charged battery, the device being set in the off position or in the stand-by mode		N/A
	Appliances incorporating a protective electronic circuit subjected to the tests of 19.11.4.1 and 19.11.4.2		N/A
	Tests carried out after the protective electronic circuit has operated during the relevant tests of Clause 19 except 19.2 and 19.11.3		N/A
19.11.4.8	Battery operated appliances are supplied with a fully charged battery, operated under normal operation for 60 s, and then subjected to a 60 s interruption of the battery current		N/A
	When battery current restored, the appliance:		N/A
	- continues to operate normally from the same operation cycle point reached before the battery supply was interrupted, or		N/A
	- does not continue operating without requiring manual intervention to restart from the same operating cycle point reached before the battery supply was interrupted, or		N/A
	- does not continue operating without requiring manual intervention to restart from the part of the cycle selected by the user		N/A
19.13	During tests, no flames, molten metal or poisonous or ignitable gas in hazardous amounts and temperature rises not exceeding the values shown in Table 9..... :		N/A
	No explosion or ignition of the battery during or after the test		N/A
	Venting of cells permitted through their vents		N/A
	After the tests, and when the appliance has cooled to room temperature, compliance with B.22.3 and B.22.5 not impaired and the appliance complies with 20.2 and Clause 29, if still operable		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	For appliances immersed in or filled with conducting liquid in normal use, appliance immersed in or filled with water for 24 h before the test of B.22.5		N/A
	No dangerous malfunction and no failure of protective electronic circuits, if still operable		N/A
	Appliances tested with an electronic switch in the off position:		N/A
	- do not become operational, or		N/A
	- do not result in a dangerous malfunction during or after the tests of 19.11.4, if they become operational		N/A
	In an appliance containing lids or doors controlled by one or more interlocks, one of the interlocks may be released if both of the following conditions are fulfilled:		N/A
	- no movement to an open position when released		N/A
	- no restart after the cycle in which it was released		N/A
19.15	For battery-operated appliances incorporating a manual voltage selector switch intended to select battery voltage, switch set to lowest voltage position and highest voltage applied		N/A
B.19.1	Supply terminals of a battery-operated appliance having an indication of polarity connected to the battery terminals of opposite polarity, unless		N/A
	connection by the user unlikely to occur		N/A
B.19.2	For battery-operated appliances with provision for multiple batteries, one or more of the batteries reversed and appliance operated, if reversal by the user of battery polarity allowed by the construction		N/A
B.19.3	For battery-operated appliances with motor(s), terminals of each motor short circuited one at a time, where the resistance of the short-circuit does not exceed 10 mW and while operated under the conditions of Clause 11		N/A
	Test conducted until steady conditions are achieved, including returning to room temperature or until a time period of at least 3 h		N/A
B.19.4	Test conducted with all the cells of the battery fully charged and, for batteries consisting of more than one cell, one cell fully discharged on a detachable or separable battery connected to the appliance or on an appliance containing an integral battery		N/A
	Main discharge connections of the battery shorted with a resistance not to exceed 10 mW, conducted		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	until a non-self-resetting protection device operates or an intentionally weak part becomes permanently open-circuited or until the test sample returns to room temperature		
B.19.5	Battery-operated appliance and any cords except supply cords, as appropriate, tested with the battery connected, under the following fault conditions applied one at a time:		N/A
	- any cord provided between the battery-operated appliance and a separable battery is short-circuited at the point along its length likely to produce the most adverse effects		N/A
	- for appliances having replaceable batteries that are replaceable and that can be removed without the aid of a tool, and having terminals that can be short-circuited by a thin straight bar, the terminals of the battery are short-circuited		N/A
	- charging terminals of the battery-operated appliance that are simultaneously accessible with the test probe 13 of IEC 61032 are short circuited so as to produce the most unfavourable result		N/A
	Battery-operated appliance switched on and no additional mechanical load applied		N/A
	Tests conducted until the test sample achieves a steady condition, including returning to room temperature or, until a time period of at least 3 h		N/A
	Resistance of short circuit not exceeding 10 mW		N/A
B.19.6	For detachable and separable batteries, combinations of terminals simultaneously accessible by applying the test probe 13 of IEC 61032 short circuited so as to produce the most unfavourable result		N/A
B.20.1	The enclosure of a battery-operated appliance incorporating an integral battery that uses metal-ion chemistry withstands the pressure generated when a cell vents during failure		N/A
	Compliance checked by inspection after the tests of Clause 19 for batteries with a capacity less than 0,2 Ah, and measurement or test as specified		N/A
B.20.2	The enclosure of detachable and separable batteries that use metal-ion chemistries withstands the pressure generated when a cell vents during failure; tests as specified		N/A
	Compliance checked by inspection after the tests of Clause 19 for batteries with a capacity less than 0,2 Ah, and measurement or test as specified		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
21.1	Battery-operated appliances have adequate mechanical strength and are constructed to withstand rough handling expected in normal use		N/A
	Appliance fitted with fully charged batteries and rigidly supported subjected to test Ehb of IEC 60068-2-75, three blows of 0,5 J applied to every point of the appliance enclosure likely to be weak		N/A
	If necessary, blows also applied to handles, levers, knobs and similar parts and to signal lamps and their covers, but only if the lamps or covers protrude from the enclosure by more than 10 mm or if their surface area exceeds 4 cm^2		N/A
	Lamps within the appliance and their covers only tested if likely to be damaged in normal use		N/A
	When applying the release cone to the guard of a visibly glowing heating element, the hammer head passing through the guard does not strike the heating element		N/A
	In case of doubt, defect neglected and the group of three blows applied to the same place on a new sample which then withstands the test		N/A
	Hand-held battery-operated appliances also subjected to test free-fall - procedure 1, of IEC 60068-2-31, under the specified conditions		N/A
	Free-fall test does not cause the appliance to catch fire, leak fluid visible from the outside or explode and meets the requirements of Clause 20, Clause 29, B.22.3 and B.22.5 where short circuit of functional insulation will impair compliance with this standard		N/A
B.21.1	Separable and detachable batteries, when not connected to the appliance, have adequate mechanical strength and are constructed to withstand rough handling expected in normal use		N/A
	Fully charged battery, rigidly supported, subject to test Ehb of IEC 60068-2-75, three blows of 0,5 J applied to every point of the battery enclosure likely to be weak		N/A
	In case of doubt, defect neglected and the group of three blows applied to the same place on a new sample which then withstands the test		N/A
	Detachable and separable batteries subjected to the test free-fall - procedure 1, of IEC 60068-2-31, under the conditions as specified		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Free-fall test does not damage the battery or cause it to catch fire, leak fluid visible from the outside or explode and meets the requirements of Clause 20, Clause 29, B.22.4 and B.22.5 where short circuit of functional insulation will impair compliance with this standard		N/A
	For batteries using metal-ion chemistry:		N/A
	- open circuit voltage of the battery 24 h after the tests not less than 90 % of the voltage measured immediately prior to the tests		N/A
	- cells only vented through their vents		N/A
22.11	Non-detachable parts that protect against electric shock, moisture or contact with moving parts reliably are fixed and withstand the mechanical stress occurring during normal use		N/A
	Snap-in devices used for fixing such parts have an obvious locked position		N/A
	Fixing properties of snap-in devices used in parts that are likely to be removed during installation or servicing reliable		N/A
22.20	Direct contact between current carrying parts and thermal insulation that would impair compliance with this standard effectively prevented, unless		N/A
	such material is noncorrosive, non-hygroscopic and non-combustible		N/A
	Not applicable to glass-wool thermal insulation		N/A
22.24	Not applicable to battery-operated appliances that do not contain parts requiring protection against simultaneous contact according to B.22.3		N/A
22.25	Not applicable to battery-operated appliances that do not contain parts requiring protection against simultaneous contact according to B.22.3		N/A
22.26	This subclause is not applicable		N/A
22.27	This subclause is not applicable		N/A
22.28	This subclause is not applicable		N/A
22.29	This subclause is not applicable		N/A
22.30	This subclause is not applicable		N/A
22.31	This subclause is not applicable		N/A
22.32	This subclause is not applicable		N/A
22.33	Conductive liquids that are or may become		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	accessible in normal use and conductive liquids that are in contact with accessible metal parts are not in direct contact with current carrying parts or unearthed metal parts that are separated from current carrying parts by basic insulation only or with other current carrying parts such that compliance with B.22.3 and B.22.4 would be impaired		
22.34	This subclause is not applicable		N/A
22.35	This subclause is not applicable		N/A
22.36	This subclause is not applicable		N/A
22.37	This subclause is not applicable		N/A
B.22.1	User accessible interfaces between elements of a battery system (not mains connections) do not employ appliance couplers according to IEC 60320 (all parts) or IEC 60309-2		N/A
	User accessible interfaces between elements of a battery system (not mains connections) do not employ connectors of the following types unless the battery system is adequately protected against the use of an incorrect supply:		N/A
	- barrel connectors with outside diameters of 6,5 mm or less		N/A
	- concentric connectors with a diameter of 3,5 mm or less according to IEC 60603-11		N/A
	Compliance checked by inspection, measurement and for determining adequacy of protection against use of an incorrect supply, by the test as specified		N/A
	Source selected such that its current capability does not limit the charging of the battery		N/A
	During the application of incremental voltages, the appliance is either operating normally or, if not, does not emit flames, molten metal, or poisonous or ignitable gas in hazardous amounts and temperature rises do not exceed the values shown in Table 9		N/A
	No explosion or ignition of the battery during or after the test		N/A
	Venting of cells permitted through their vents		N/A
B.22.2	External surfaces of detachable and separable batteries protected against excessive heat from heat sources (directly or via heated discharge air) present during operation of the appliance		N/A
B.22.3	Battery-operated appliances so constructed and enclosed that there is adequate		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	protection against simultaneous contact with two or more conductive parts where the:		
	- voltage between them exceeds 42,4 V		N/A
	- current between the conductive parts exceeds 2 mA for DC or 0,7 mA peak for when ripple exceeds 10 %		N/A
	Compliance checked with test probe B and test probe 18 of IEC 61032 as described		N/A
	Detachable parts except lamps behind a detachable cover removed during the tests with test probe B, however		N/A
	during insertion or removal of lamps located behind a detachable cover, protection against simultaneous contact with parts having a voltage between them exceeding 42,4 V ensured		N/A
	During the tests with test probe 18, appliance fully assembled as in normal use, no parts removed		N/A
	However, test probe 18 not applied to appliances for commercial use, unless		N/A
	intended to be installed in an area open to the public		N/A
	Not possible to touch two or more conductive parts of opposite polarity with the probes if the voltage between them exceeds 42,4 V and the current between them exceeds 2 mA for DC or 0,7 mA peak for when ripple exceeds 10 %		N/A
	Current measured using the circuit in Figure 4 of IEC 60990:2016		N/A
	In addition to the use of test probe 18, test probe 19 of IEC 61032 is applied as specified for test probe 18. (IEC 60335-2-80)		N/A
	For other than infant fans, test probe 19 of IEC 61032 is not applied to (IEC 60335-2-80)		N/A
	-parts of fans that are located at a height greater than 850 mm in normal use, (IEC 60335-2-80)		N/A
	- fans which according to the instructions are required to be mounted or placed at a height exceeding 850 mm. (IEC 60335-2-80)		N/A
B.22.4	Separable and detachable batteries so constructed and enclosed that there is adequate protection against simultaneous contact with two or more conductive parts where the:		N/A
	- voltage between them exceeds 42,4 V		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- current between the conductive parts exceeds 2 mA		N/A
	Compliance checked with test probe B and test probe 18 of IEC 61032 as described		N/A
	During the tests with:		N/A
	- test probe B, all detachable parts removed		N/A
	- test probe 18, no parts removed		N/A
	However, test probe 18 not applied to appliances for commercial use, unless		N/A
	intended to be installed in an area open to the public		N/A
	Not possible to touch two or more conductive parts of opposite polarity with the probes if the voltage between them exceeds 42,4 V and the current between them exceeds 2 mA		N/A
	Current measured using the circuit in Figure 4 of IEC 60990:2016		N/A
	In addition to the use of test probe 18, test probe 19 of IEC 61032 is applied as specified for test probe 18. (IEC 60335-2-80)		N/A
	For other than infant fans, test probe 19 of IEC 61032 is not applied to (IEC 60335-2-80)		N/A
	-parts of fans that are located at a height greater than 850 mm in normal use, (IEC 60335-2-80)		N/A
	- fans which according to the instructions are required to be mounted or placed at a height exceeding 850 mm. (IEC 60335-2-80)		N/A
B.22.5	Insulating materials providing protection against simultaneous contact with two or more conductive parts are adequate when:		N/A N/A
	- they are within 1,0 mm of the conductive parts		
	- the voltage between the conductive parts exceeds 42,4 V peak		N/A
	- the current between the conductive parts exceeds 2 mA for DC or 0,7 mA peak for when ripple exceeds 10 %		N/A
	Insulating material subjected to voltage test as specified at 750 V or 1,2 times the working voltage plus 700 V, whichever greater, in accordance with IEC 61180 (V).....:		N/A
	No breakdown during the test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Current measured using the circuit in Figure 4 of IEC 60990:2016		N/A
B.22.6	Vents of cells not obstructed such that their operation is defeated if venting is relied upon compliance with this standard		N/A
23.3	Instead of the electric strength test of 16.3, battery-operated appliances comply with B.22.3		N/A
23.5	For battery-operated appliances compliance is checked by the test of B.22.5		N/A
24.1	Batteries are not required to comply with IEC 62133-1:2017 or IEC 62133-2:2017, they are tested as part of the appliance according to this standard		N/A
24.1.1	This subclause is not applicable		N/A
24.1.3	Switches in battery-operated appliances have adequate breaking capacity and withstand, without excessive wear or other harmful effect, the mechanical, electrical, and thermal stresses occurring in the battery-operated appliance		N/A
	Tests as described and according to the relevant standard for switches, IEC 61058-1-1:2016 for mechanical switches and IEC 61058-1-2:2016 for electronic switches		N/A
	Required cycles of operation completed, no electrical or mechanical failure		N/A
	At the end of the tests:		N/A
	- switch contacts operating properly in the "on" and "off" positions		N/A
	- temperature rise of the switch terminals not increased by more than 30 K above the temperature rise measured in Clause 11		N/A
B.24.1	The relevant standards for non-acid based electrolyte cells employed in batteries are IEC 62133-1:2017 for nickel systems and IEC 62133-2:2017 for lithium systems		N/A
	A battery that uses metal-ion chemistry is additionally subjected to the tests of subclauses 7.3.8.1 (vibration) and 7.3.8.2 (mechanical shock) of IEC 62133-2:2017		N/A
25.9	The requirement also applies to interconnection cords of battery-operated appliances		N/A
25.14	The requirement also applies to interconnection cords of battery-operated appliances		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
25.15	The requirement also applies to interconnection cords of battery-operated appliances		N/A
B.25.1	Insulated conductors of interconnection cords of battery-operated appliances comply with the requirements for internal wiring and are provided with at least 0,5 mm thick outer sheath made of insulating material equivalent to that of supply cords described in 25.7		N/A
B.26.1	Terminal devices in an appliance for the connection of the flexible leads or flexible cord connecting a separable battery so located or shielded that there is no risk of incorrect connection		N/A
27.1	The battery-operated appliance does not have a provision for a protective earth but may incorporate a functional earth.		N/A
29.1	Clearances not less than the values specified in Table 16, taking into account the rated impulse voltage		N/A
	For battery-operated appliances, the rated impulse voltage is 500 V for working voltages less than 50 V and 1 500 V for all other working voltages		N/A
	However, if the construction, including between parts of opposite polarity for connecting the battery, is such that the distances could be affected by wear, by distortion, by movement of the parts or during assembly, the clearances for rated impulse voltages of 1 500 V are increased by 0,5 mm and the impulse voltage test is not applicable		N/A
B.29.1.1	For parts requiring protection against simultaneous contact according to B.22.3 and B.22.4, the sum total of the clearances between each of these parts and their nearest accessible surface is not less than two times the Table 16 clearance taking into account the rated impulse voltage		N/A
	For the purpose of this determination, at least one of the clearances is not less than 1,0 mm.		N/A
B.29.2.1	For parts requiring protection against simultaneous contact according to B.22.3 and B.22.4, the sum total of the creepage distances between each of these parts and their nearest accessible surface is not less than two times the Table 17 creepage distances.		N/A
	For the purpose of this determination, at least one of the creepage distances is not less than 1,0 mm		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
30.1	External parts of non-metallic material, the deterioration of which might cause the battery-operated appliance, separable battery or detachable battery to fail to comply with this annex, are sufficiently resistant to heat		N/A
C	**ANNEX C (NORMATIVE)** **AGEING TEST ON MOTORS**		-
	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**		-
	Applicable to appliances having motors that incorporate thermal motor protectors necessary for compliance with the standard		N/A
	Test conditions as specified with appliance supplied at rated voltage (V).....: Induction motors See DSH 543AA		N/A
E	**ANNEX E (NORMATIVE)** **NEEDLE-FLAME TEST**		-
	Needle-flame test carried out in accordance with IEC 60695-11-5:2016, with the following modifications:		N/A
7	Flame application times		N/A
	The duration of application of the test flame is 30 s ± 1 s		N/A
9	Test procedure		N/A
9.2	The specimen so arranged that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 2		N/A
9.3	The first paragraph does not apply		N/A
	If possible, the flame is applied at least 10 mm from a corner		N/A
9.4	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

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Clause	Requirement + Test	Result - Remark	Verdict
	However, for printed circuit boards, the duration of burning not exceeding 15 s		N/A
F	**ANNEX F (NORMATIVE) CAPACITORS**		-
	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 60384-14:2013 including IEC 60384-14:2013/AMD1:2016, with the following modifications:		N/A
1.5	Terms and definitions		N/A
1.5.3	Class X capacitors tested according to subclass X2		N/A
1.5.4	Class Y capacitors tested according to subclass Y2		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
	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

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Clause	Requirement + Test	Result - Remark	Verdict
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**		-
	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 the:		N/A
	- name, trademark or identification mark of the manufacturer or responsible vendor.....:		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 61558-1:2017		N/A
22	Construction		N/A
	Subclauses 19.1 and 19.1.2 of IEC 61558-2-6:2009 are applicable		N/A
29	Clearances, creepage distances and solid insulation		N/A
29.1, 29.2, 29.3	The distances specified in Table 20, Table 21 and Table 22 of IEC 61558-1:2017 apply		N/A
	For insulated winding wires complying with subclause 19.12.3 of IEC 61558-1:2017 there are no requirements for clearances or creepage distances		N/A
	For windings providing reinforced insulation, the distances specified in Table 20 and Table 21 of IEC 61558-1:2017 are 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 60664-4:2005 are applicable, if greater than the values specified in Table 20, Table 21 and Table 22 of IEC 61558-1:2017		N/A
H	**ANNEX H (NORMATIVE)** **SWITCHES**		-
	Switches comply with the following clauses of IEC 61058-1:2016 and IEC 61058-1-		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	1:2016, as modified below:		
	The tests 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 trademark and the type reference		N/A
13	Mechanism		N/A
	The tests can 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, test carried out immediately after the humidity test of subclause 15.3 of IEC 60335-1		N/A
17	Endurance		N/A
	Compliance is checked on three separate appliances or switches		N/A
	For 17.5.4 of IEC 61058-1-1:2016, the number of cycles of actuation declared according to 7.4 is 10 000, unless		N/A
	otherwise specified in 24.1.3 of IEC 60335-1..... :		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 17.5.4 of IEC 61058-1-1:2016 for 100 cycles of operation		N/A
	Subclauses 17.3 and 17.6.2 of IEC 61058-1-1:2016 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

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Clause	Requirement + Test	Result - Remark	Verdict
	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 of IEC 61058-1:2016 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 14		N/A
I	**ANNEX I (NORMATIVE) MOTORS HAVING BASIC INSULATION THAT IS INADEQUATE FOR THE RATED VOLTAGE OF THE APPLIANCE**		-
	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		N/A
11	Heating		N/A
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
I.19.1	Appliance operated at rated voltage with each of the following fault conditions:		N/A
	Rated voltage (V).....	Test voltage =	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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	being in operation		
	Only one fault simulated at a time, the tests carried out consecutively		N/A
22	Construction		N/A
I.22.1	For class I appliances incorporating a motor supplied by a rectifier circuit, the DC 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**		-
	Protective coatings of printed circuit boards comply with IEC 60664-3:2016 with the following modifications:		N/A
5.1	General		N/A
	When production samples are used, three samples of the printed circuit board are tested		N/A
5.7.2	Cold conditioning		N/A
	The test is carried out at -25 °C		N/A
5.7.4	Rapid change of temperature		N/A
	Severity 1 is specified, the number of cycles is 5		N/A
5.7.5.2	Additional conditioning with respect to electromigration		N/A
	The test duration is 10 days		N/A
5.9	Additional tests		N/A
	This subclause is not applicable		N/A
K	**ANNEX K (INFORMATIVE) OVERVOLTAGE CATEGORIES**		-
	The information on overvoltage categories is extracted from IEC 60664-1:2007		P
	Overvoltage category is a numeral defining a transient overvoltage condition		P
	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		P

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Clause	Requirement + Test	Result - Remark	Verdict
	consuming equipment to be supplied from the fixed installation		
	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 appropriately low level		N/A
L	**ANNEX L (INFORMATIVE) GUIDANCE FOR THE MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES**		-
	Information for the determination of clearances and creepage distances		P
M	**ANNEX M (INFORMATIVE) POLLUTION DEGREE**		-
	The information on pollution degrees is extracted from IEC 60664-1:2007		P
	Pollution		P
	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		P
	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		N/A
	- pollution degree 3: conductive pollution occurs or dry non-conductive pollution occurs that becomes conductive due to condensation that is to be expected		P
	- pollution degree 4: the pollution generates persistent conductivity caused by conductive dust		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	or by rain or snow		
N	**ANNEX N (NORMATIVE) PROOF TRACKING TEST**		-
7	Test apparatus		P
7.3	Test solutions		P
	Test solution A is used		P
10	Determination of proof tracking index (PTI)		P
10.1	Procedure		P
	Proof voltage of 100 V, 175 V, 400 V or 600 V.....:	175 V	P
	The test is carried out on five specimens		P
	In case of doubt, additional test with proof voltage reduced by 25 V, the number of drops increased to 100		N/A
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**		-
	Description of tests for determination of resistance to heat and fire		P
P	**ANNEX P (INFORMATIVE) GUIDANCE FOR THE APPLICATION OF THIS STANDARD TO APPLIANCES USED IN TROPICAL CLIMATES**		-
	Modifications applicable for class 0 and 0I appliances having a rated voltage exceeding 150 V, intended to be used in countries having a tropical climate and that are marked with symbol IEC 60417-6332 (2015-06)		N/A
	Modifications may also be applied to class I appliances having a rated voltage exceeding 150 V, intended to be used in countries having a tropical climate and that are marked with symbol IEC 60417-6332 (2015-06), 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 symbol IEC 60417-6332 (2015-06)		N/A
7.6	Symbol IEC 60417-6332 (2015-06)		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

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Clause	Requirement + Test	Result - Remark	Verdict
	The instructions state that the appliance is considered to be suitable for use in countries having a tropical climate, but may also be used in other countries		N/A
	If symbol IEC 60417-6332 (2015-06) is used, its meaning is explained		N/A
11.8	Not applicable. (IEC 60335-2-80)		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**		-
	Description of tests for appliances incorporating electronic circuits		N/A
R	**ANNEX R (NORMATIVE) SOFTWARE EVALUATION**		-
	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		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
R.2.1	General		N/A
R.2.1.1	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.2.1.2	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

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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
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 occurs before compliance with clause 19 is impaired		N/A
	For appliances intended for remote communication through public networks, where normative Annex U is applicable as determined by 22.62, detection of a fault/error occurs before compliance with normative		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Annex U is impaired		
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
	For appliances intended for remote communication through public networks where normative Annex U is applicable as determined by 22.62, the software and safety-related hardware under its control is initialized and terminates before compliance with normative Annex U 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 faults 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
R.3.2.1	Software safety requirements:	Software Id:	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 - 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);		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- interrupt handling; - data flow and restrictions on data access; - architecture and storage of data; - time-based dependencies of sequences and data		
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
	The module design specifies:		N/A
	- function(s)		N/A
	- interfaces to other modules		N/A
	- data		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	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
	- input signals present during normal operation		N/A
	- anticipated occurrences		N/A
	- undesired conditions requiring system action		N/A
R.3.4	Management items		N/A
R.3.4.1	Management of software versions		N/A
	A software version management system at the module level is put in place		N/A
R.3.4.2	Software modification		N/A
R.3.4.2.1	Software modifications are based on a modification request which details the following:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- the hazards which may be affected		N/A
	- the proposed change		N/A
	- the reasons for change		N/A
R.3.4.2.2	An analysis is carried out to determine the impact of the proposed modification on functional safety		N/A
R.3.4.2.3	A detailed specification for the modification is generated including the necessary activities for verification and validation, such as a definition of suitable test cases		N/A
R.3.4.2.4	The modification is carried out as planned		N/A
R.3.4.2.5	The assessment of the modification is carried out based on the specified verification and validation activities, which may include:		N/A
	- a reverification of changed software modules		N/A
	- a reverification of affected software modules		N/A
	- a revalidation of the complete system		N/A
	All details of modification activities are documented		N/A
R.3.4.2.6	- a reverification of changed software modules		N/A

TABLE R.1 – 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	H.2.16.5 H.2.16.6 H.2.19.6			N/A

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Clause	Requirement + Test		Result - Remark			Verdict
		– word protection with single bit redundancy	H.2.19.8.2			
1.2 VOID						N/A
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			N/A
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			N/A
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			N/A
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			N/A
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			N/A
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			N/A
5 Internal data path	Stuck at	Word protection with single bit redundancy	H.2.19.8.2			N/A
5.1 VOID						N/A
5.2	Wrong	Word protection with single bit	H.2.19.8.2			N/A

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Clause	Requirement + Test		Result - Remark			Verdict
Addressing	address	redundancy including the address				
6 External communication 6.1 Data	Data corruption of up to Hamming distance 3	Word protection with multi-bit redundancy, or CRC – single word, or transfer redundancy, or protocol test	H.2.19.8.1 H.2.19.4.1 H.2.18.2.2 H.2.18.14			N/A
6.2 Addressing	Wrong address	Word protection with multi-bit redundancy including the address, or CRC – single word including the address, or transfer redundancy, or protocol test	H.2.19.8.1 H.2.19.4.1 H.2.18.2.2 H.2.18.14			N/A
6.3 Timing	Wrong point in time Wrong sequence	Time-slot monitoring, or scheduled transmission Logical monitoring, or time-slot monitoring, or scheduled transmission	H.2.18.10.4 H.2.18.18 H.2.18.10.2 H.2.18.10.4 H.2.18.18			N/A
7 Input/output periphery	Fault conditions specified in 19.11.2	Plausibility check	H.2.18.13			N/A
7.1 VOID						N/A
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			N/A
7.2.2 Analog multiplexer	Wrong addressing	Plausibility check	H.2.18.13			N/A
8 VOID						N/A
9 Custom chips [d] e.g. ASIC, GAL, gate array	Any output outside the static and dynamic functional	Periodic self-test	H.2.16.6			N/A

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict

	specification					

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 circuits 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.

TABLE R.2 – SPECIFIC FAULT/ERROR CONDITIONS

Component [a]	Fault/error	Acceptable measures [b, c]	Definitions	Document reference for applied measure	Document reference for applied test	Verdict
1 CPU						N/A
1.1 Registers	DC fault	Comparison of redundant CPUs by either:				
		– reciprocal comparison	H.2.18.15			
		– independent hardware comparator, or	H.2.18.3			
		internal error detection, or	H.2.18.9			
		redundant memory with comparison, or	H.2.19.5			
		periodic self-tests using either				
		– walkpat memory test	H.2.19.7			
		– Abraham test	H.2.19.1			
		– Transparent GALPAT test; or	H.2.19.2.1			
		word protection with multi-bit redundancy, or	H.2.19.8.1			
		static memory test and	H.2.19.6			
		word protection with single bit redundancy	H.2.19.8.2			
1.2 Instruction decoding and execution	Wrong decoding and execution	Comparison of redundant CPUs by either:				N/A
		– reciprocal comparison	H.2.18.15			
		– independent hardware comparator, or	H.2.18.3			
		internal error detection, or	H.2.18.9			
		periodic self-test using equivalence class test	H.2.18.5			
1.3	DC fault	Periodic self-test and monitoring	H.2.16.7			N/A

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Clause	Requirement + Test		Result - Remark			Verdict
Programme counter		using either: – independent time-slot and logical monitoring – internal error detection, or comparison of redundant functional channels by either: – reciprocal comparison – independent hardware comparator	H.2.18.10.3 H.2.18.9 H.2.18.15 H.2.18.3			
1.4 Addressing	DC fault	Comparison of redundant CPUs by either: – reciprocal comparison – independent hardware comparator; or internal error detection; or periodic self-test using – a testing pattern of the address lines; or – a full bus redundancy – a multi bus parity including the address	H.2.18.15 H.2.18.3 H.2.18.9 H.2.16.7 H.2.18.22 H.2.18.1.1 H.2.18.1.2			N/A
1.5 Data paths instruction decoding	DC fault and execution	Comparison of redundant CPUs by either: – reciprocal comparison, or – independent hardware comparator, or – internal error detection, or – periodic self-test using a testing pattern, or – data redundancy, or – multi-bit bus parity	H.2.18.15 H.2.18.3 H.2.18.9 H.2.16.7 H.2.18.2.1 H.2.18.1.2			N/A
2 Interrupt handling and execution	No interrupt or too frequent interrupt related to different sources	Comparison of redundant functional channels by either – reciprocal comparison, – independent hardware comparator, or – independent time-slot and logical monitoring	H.2.18.15 H.2.18.3 H.2.18.10.3			N/A
3 Clock	Wrong frequency (for quartz synchroniz	Frequency monitoring, or time-slot monitoring, or comparison of redundant functional channels by either:	H.2.18.10.1 H.2.18.10.4			N/A

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Clause	Requirement + Test		Result - Remark			Verdict
	ed clock: harmonics/ sub-harmonics only)	– reciprocal comparison – independent hardware comparator	H.2.18.15 H.2.18.3			
4 Memory 4.1 Invariable memory	99,6 % coverage of all information errors	Comparison of redundant CPUs by either: – reciprocal comparison – independent hardware comparator, or redundant memory with comparison, or periodic cyclic redundancy check, either – single word – double word, or word protection with multi-bit redundancy	 H.2.18.15 H.2.18.3 H.2.19.5 H.2.19.4.1 H.2.19.4.2 H.2.19.8.1			N/A
4.2 Variable memory	DC fault and dynamic cross links	Comparison of redundant CPUs by either: – reciprocal comparison – independent hardware comparator, or redundant memory with comparison, or periodic self-tests using either: – walkpat memory test – Abraham test – transparent GALPAT test, or word protection with multi-bit redundancy	 H.2.18.15 H.2.18.3 H.2.19.5 H.2.19.7 H.2.19.1 H.2.19.2.1 H.2.19.8.1			N/A
4.3 Addressing (relevant to variable and invariable memory)	DC fault	Comparison of redundant CPUs by either: – reciprocal comparison, or – independent hardware comparator, or full bus redundancy testing pattern, or periodic cyclic redundancy check, either: – single word	 H.2.18.15 H.2.18.3 H.2.18.1.1 H.2.18.22 H.2.19.4.1			N/A

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Clause	Requirement + Test		Result - Remark			Verdict
		– double word, or word protection with multi-bit redundancy including the address	H.2.19.4.2 H.2.19.8.1			
5 Internal data path 5.1 Data	DC fault	Comparison of redundant CPUs by either – reciprocal comparison – independent hardware comparator, or word protection with multi-bit redundancy including the address, or data redundancy, or testing pattern, or protocol test	 H.2.18.15 H.2.18.3 H.2.19.8.1 H.2.18.2.1 H.2.18.22 H.2.18.14			N/A
5.2 Addressing	Wrong address and multiple addressing	Comparison of redundant CPUs by: – reciprocal comparison – independent hardware comparator, or word protection with multi-bit redundancy, including the address, or full bus redundancy; or testing pattern including the address	 H.2.18.15 H.2.18.3 H.2.19.8.1 H.2.18.1.1 H.2.18.22			N/A
6 External communication 6.1 Data	Data corruption of up to Hamming distance 4	CRC – double word, or data redundancy or comparison of redundant functional channels by either – reciprocal comparison; or – independent hardware comparator	H.2.19.4.2 H.2.18.2.1 H.2.18.15 H.2.18.3			N/A
6.2 Addressing	Wrong address and multiple addressing	CRC – double word, including the address, or full bus redundancy of data and address, or comparison of redundant	H.2.19.4.2 H.2.18.1.1			N/A

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Clause	Requirement + Test		Result - Remark			Verdict
		communication channels by either: – reciprocal comparison; or – independent hardware comparator	 H.2.18.15 H.2.18.3			
6.3 Timing	Wrong point in time	Time-slot and logical monitoring, or comparison of redundant communication channels by either: – reciprocal comparison; or – independent hardware comparator	H.2.18.10.3 H.2.18.15 H.2.18.3			N/A
	Wrong sequence	Time-slot and logical monitoring, or comparison of redundant communication channels by either: – reciprocal comparison; or – independent hardware comparator	H.2.18.10.3 H.2.18.15 H.2.18.3			
7 Input/output periphery 7.1 Digital I/O	Fault conditions specified in 19.11.2	Comparison of redundant CPUs by either: – reciprocal comparison – independent hardware comparator, or input comparison, or multiple parallel outputs, or output verification, or testing pattern, or code safety	 H.2.18.15 H.2.18.3 H.2.18.8 H.2.18.11 H.2.18.12 H.2.18.22 H.2.18.2			N/A
7.2 Analog I/O 7.2.1 A/D and D/A converter	Fault conditions in 19.11.2	Comparison of redundant CPUs by either: – reciprocal comparison – independent hardware comparator, or input comparison, or	 H.2.18.15 H.2.18.3 H.2.18.8			N/A

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Clause	Requirement + Test		Result - Remark			Verdict
		multiple parallel outputs, or output verification, or testing pattern	H.2.18.11 H.2.18.12 H.2.18.22			
7.2.2 Analog multiplexer	Wrong addressing	Comparison of redundant CPUs by either: – reciprocal comparison – independent hardware comparator, or input comparison or testing pattern	 H.2.18.15 H.2.18.3 H.2.18.8 H.2.18.22			N/A
8 Monitoring devices and comparators	Any output outside the static and dynamic functional specification	Tested monitoring, or redundant monitoring and comparison, or error recognizing means	H.2.18.21 H.2.18.17 H.2.18.6			N/A
9 Custom chips [d] e.g. ASIC, GAL, gate array	Any output outside the static and dynamic functional specification	Periodic self-test and monitoring, dual channel (diverse) with comparison, or error recognizing means	H.2.16.7 H.2.16.2 H.2.18.6			N/A
NOTE A DC fault model denotes a stuck-at fault model incorporating short circuits 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 software measure will cover the Table R.1 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.						

S	**ANNEX S (INFORMATIVE)** **GUIDANCE FOR THE APPLICATION OF THIS STANDARD ON MEASUREMENT OF POWER INPUT AND CURRENT BASED ON THE REQUIREMENTS OF 10.1 AND 10.2 CONCERNING THE REPRESENTATIVE PERIOD**	-
	Flowchart giving guidance on measurement of power input and current concerning the representative period	N/A
T	**ANNEX T (NORMATIVE)** **UV-C RADIATION EFFECT ON NON-METALLIC MATERIALS**	-

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	This annex provides requirements for non-metallic materials subject to direct or reflected UV-C radiation (100 nm to 280 nm) exposure and whose mechanical and electrical properties are relied upon for compliance with this standard		N/A
	This annex does not apply to glass, ceramic and similar materials		N/A
	The conditioning and tests are carried out on non-metallic material specimens prepared according to the relevant standard for the test method		N/A
	The conditioning apparatus and test procedure are as specified in ISO 4892-1 and ISO 4892-2		N/A
	Modifications to the clauses of ISO 4892-1:2016:		N/A
5.1	Irradiance		N/A
5.1.1	The UV-C emitter is a low pressure mercury lamp with a quartz envelope having a continuous spectral irradiance of 10 W/m^2 at 254 nm		N/A
5.2	Temperature		N/A
5.2.5	The black-panel temperature is 63 °C ± 3 °C		N/A
5.3	Humidity and wetting		N/A
5.3.1	Humidification of the chamber air is specified in part 2 when necessary		N/A
9	Test report		N/A
	This clause is not applicable		N/A
	Modifications to the clauses of ISO 4892-2:2013:		N/A
7	Procedure		N/A
7.1	General		N/A
	At least three test specimens of each non-metallic material providing mechanical support or impact resistance are exposed in each run		N/A
	Ten samples of the insulated internal wiring are exposed in each run		N/A
	When the internal wiring is provided in more than one colour, the colour having the heaviest organic pigment loading is used		N/A
7.2	Mounting the test specimens		N/A
	The specimens are attached to the specimen holders such that they are not subject to any applied stress		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
7.3	Exposure		N/A
	Before placing the specimens in the test chamber, the apparatus is operating under the specified exposure conditions and programmed to operate continuously, conditions are maintained throughout the exposure		N/A
7.4	Measurement of radiant exposure		N/A
	If used, a radiometer is mounted and calibrated such that it measures the irradiance at the exposed surface of the test specimen		N/A
7.5	Determination of changes in properties after exposure		N/A
	The non-metallic material properties and test methods for parts providing mechanical support or impact resistance are specified in Table T.1		N/A
	The non-metallic material properties and test method for electrical insulation of internal wiring are specified in Table T.2		N/A
8	Exposure report		N/A
	This clause is not applicable		N/A
U	**ANNEX U (NORMATIVE) APPLIANCES INTENDED FOR REMOTE COMMUNICATION THROUGH PUBLIC NETWORKS**		-
	The measures given in this annex are intended to avoid unauthorized access and the effects of transmission failures via remote communication through public networks, where compliance with this standard could be impaired		N/A
	However, in general, it does not cover aspects concerning confidentiality of data and consumer privacy		N/A
U.1	Terms and definitions		N/A
U.1.1	Definitions relating to remote functionality		N/A
	Definitions used in this appendix as described		N/A
U.2	Marking and instructions		N/A
U.2.1	If there is provision for software download, instructions are provided on how or where to obtain the unique name or code given by the manufacturer, that identifies the current version of the software running in the appliance		N/A
	The instructions also include the necessary steps the user must follow for the software update		N/A

IEC 60335-2-80			
Clause	Requirement + Test	Result - Remark	Verdict
	procedure		
U.3	Construction		N/A
U.3.1	Software enabling communication with a public network is partitioned into modules separate from software which is necessary to comply with the other requirements of this standard		N/A
U.3.2	Remote communication is established, implemented and terminated by the appliance via software that provides:		N/A
	- data integrity protection concerning:		N/A
	data corruption		N/A
	address corruption		N/A
	wrong timing or sequence		N/A
	permanent "auto-sending" or repetition		N/A
	interruption of data transfer		N/A
	- means to detect and respond to communication in which, for any reason, a message being communicated is incomplete, truncated, contains errors or has the correct format but delivers information that is outside the range expected for that type of message		N/A
	- means to detect and respond to communication in which, for any reason, a message being communicated is incomplete, truncated, contains errors or has the correct format but delivers information that is outside the range expected for that type of message		N/A
	- measures to control the fault/error conditions specified in Table R.1		N/A
U.3.3	Measures provided to protect against hazards arising from the reception of messages from several sources simultaneously or sequentially		N/A
U.3.4	Remote communication is not enabled prior to authorization		N/A
	Authorization is based on authentication using cryptographic techniques to ensure the identity of both parties		N/A
	For the purposes of this requirement, communication between two entities for preparation of the authentication and authorization process is not considered remote communication		N/A
U.3.5	Measures are taken to prevent unauthorized		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	access and to detect transmission faults/errors in the remote communication		
U.3.6	The safe operation of an appliance does not depend on remote communication		N/A
	In case of doubt, remote communication rendered inoperative for the relevant tests of this standard		N/A
U.3.7	Cryptographic techniques are implemented to provide data integrity protection once authorization for remote communication is established		N/A
	Cryptographic techniques employed are part of the appliance including its accessories, do not rely upon part of the router or similar data transmission device, and are performed prior to transmission		N/A
U.3.8	Provisions are taken to ensure that software updates provided by the manufacturer and transmitted to the appliance via remote communication are verified prior to its installation:		N/A
	- against corruption through communication		N/A
	- that the software version is compatible with the appliance for which the software version was designed		N/A
	The software which performs the above-mentioned checks contains measures to control the fault/error conditions specified in Table R.1		N/A
U.3.9	Permission for each installation of software in the appliance is given by the person responsible for the appliance		N/A
	User activation of a mode that enables automatic software updates is permitted		N/A
U.3.10	The installation of software does not impair compliance with the requirements of this standard during or after installation		N/A

10.1	TABLE: Power input deviation						P
Power deviation at voltage	**Voltage value (V)**	**P rated (W)**	**P measured (W)**	**Outlet marking (W)**	**ΔP**	**Required ΔP**	**Remark**
One Rated voltage	-	-	-	-	-	-	-
Mean of voltage range of ≤ 10% With one power input relating to the mean	230 V, 50 Hz	80	67.2	-16%	+20%	pass	80
Mean of voltage range of ≤ 10% With one power input relating to the mean	-	-	-	-	-	-	-
Upper limit for other cases	-	-	-	-	-	-	-
Lower limit for other cases	-	-	-	-	-	-	-
Supplementary information: For combined appliance power to motor or motors =							

10.2	TABLE: Current deviation						N/A
Current deviation at voltage:	**Voltage value (V)**	**I rated (A)**	**I measured (A)**	**Outlet marking (A)**	**ΔI**	**Required ΔI**	**Remark**
One Rated voltage							
Mean of voltage range of ≤ 10% With one rated current relating to the mean							
Upper limit for other cases							
Lower limit for other cases							
Supplementary information: For combined appliance current to motor or motors =							

11.8	**TABLE: Heating Test (Heating appliances)**		**N/A**
	Test voltage (V) : **Test input power (W) :** **Frequency (Hz) :**		—
	Ambient (°C) :		—

Thermocouple locations**	**Max. temperature rise measured, ΔT (K)**	**Max. temperature rise limit, ΔT (K)**

Supplementary information: ** If a thermocouple is used to measure winding temperature the insulation class shall be reported next to the ΔT (K) limit

	If the resistance method is used to measure winding temperature	
	Ambient, t_1 (°C) :	—
	Ambient, t_2 (°C) :	—

Temperature rise of winding	**R_1 (Ω)**	**R_2 (Ω)**	**ΔT (K)**	**Max. ΔT (K)**	**Insulation class**

Supplementary information: Test voltage for the results reported =

11.8	TABLE: Heating Test (Motor-operated appliances and combined appliances)		P
	Test voltage (V) : R = One Rated Voltage (V) : U = Upper limit of range (V) : L =Lower limit of range (V) : Frequency (Hz) :	0.94×220 V 1.06×240 V	-
	Ambient (°C) :	23.4 °C	-

Thermocouple locations**	**Max. temperature rise measured, ΔT (K)**				**Max. temperature rise limit, ΔT (K)**
	R	**U**	**M**	**L**	
Supply cord	-	3	*	-	50
Switch	-	3	*	-	30
CBB capacitor	-	3	*	-	70-25=45
End-closed terminal	-	3	*	-	cl.30.1
Internal wire	-	3	*	-	50
Fan motor surface	-	43	*	-	Ref.
Synchronous motor surface	-	8	*	-	Ref.
Internal enclosure	-	4	*	-	cl.30.1
External enclosure	-	2	*	-	74
Tested corner	-	1	*	-	60

Supplementary information: * In general it will only be necessary to conduct the test at either the U or L condition whichever gives the higher current

** If a thermocouple is used to measure winding temperature the insulation class shall be reported next to the ΔT (K) limit

	If the resistance method is used to measure winding temperature		
	Ambient, t1 (°C) :	23.9 °C	—
	Ambient, t2 (°C) :	24.1 °C	—

Temperature rise of winding	**R1 (Ω)**	**R2 (Ω)**	**ΔT (K)**	**Max. ΔT (K)**	**Insulation class**
Fan motor winding	567	699	60	95	Class B
Synchronous motor winding	25.4	30.8	55	90	Class E

Supplementary information: Test voltage for the results reported =

12	TABLE: Charging of metal-ion batteries						N/A
Battery type	**Imbalance**	**T_{meas} (°C)**	**T_{cell} (°C)**	**$T_{amb(max)}$ (°C)**	**$T_{amb(min)}$ (°C)**	**$T_{amb(test)}$ (°C)**	

Supplementary information:

T_{meas} Cell surface temperature measured during the test
T_{cell} Cell surface temperature specified by the cell manufacturer
$T_{amb(max)}$ Maximum ambient temperature for charging specified by the manufacturer
$T_{amb(min)}$ Minimum ambient temperature for charging specified by the manufacturer
$T_{amb(test)}$ Ambient temperature of the test room during the test

13.2	TABLE: Leakage current		P
	Heating appliances: 1,15 x rated input (W) :	-	—
	Motor-operated and combined appliances: 1,06 x rated voltage (V) :	1.06×240 V	—

Leakage current between:	**I (mA)**	**Max. allowed I (mA)**
L/N and accessible parts	0.01 peak	0.35 peak

Supplementary information: Voltage used for Rated power input limit for stationary class I heating appliances =

13.3	TABLE: Dielectric Strength	P

Test voltage applied between:	**Test potential applied (V)**	**Breakdown / flashover (Yes/No)**
Live part and accessible parts	3000	No

Supplementary information:

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

16.2	TABLE: Leakage current		P
	Single phase appliances: 1,06 x rated voltage (V) :	1.06×240 V	—
	Three phase appliances: 1,06 x rated voltage divided by √3 (V) :	-	—

Leakage current between:	**I (mA)**	**Max. allowed I (mA)**
Live part and accessible parts	0.01	0.25
Supplementary information: Voltage used for Rated power input limit for stationary class I heating appliances =……		

16.3	TABLE: Dielectric Strength		P
Test voltage applied between:		**Test potential applied (V)**	**Breakdown / flashover (Yes/No)**
Basic insulation		1250	No
Supplementary insulation		1750	No
Reinforced insulation		3000	No
Supplementary information:			

17	TABLE: Overload protection		N/A
	Test voltage (V) : R = One Rated Voltage (V) : U = Upper limit of range (V) : L = Lower limit of range* (V) : **Frequency (Hz) :**		—
	Ambient (°C) :		—

Thermocouple locations**	**Max. temperature rise measured, ΔT (K)**			**Max. temperature rise limit, ΔT (K)**
	R	**U**	**L**	
			*	
			*	
			*	
			*	

Supplementary information: * Only when a protection system actuates at Upper limit of the range
** If a thermocouple is used to measure winding temperature the insulation class shall be reported next to the ΔT (K) limit

	If the resistance method is used to measure winding temperature		
	Ambient, t_1 (°C) :		—
	Ambient, t_2 (°C) :		—

Temperature rise of winding	**R_1 (Ω)**	**R_2 (Ω)**	**ΔT (K)**	**Max. ΔT (K)**	**Insulation class**

Supplementary information: Test voltage for the results reported =

17	**TABLE: Short-circuit protection**		**N/A**
	Test voltage (V) : R = One Rated Voltage (V) : U = Upper limit of range (V) : L = Lower limit of range* (V) : **Frequency (Hz) :**		—
	Ambient (°C) :		—

Thermocouple locations**	**Max. temperature rise measured, ΔT (K)**			**Max. temperature rise limit, ΔT (K)**
	R	**U**	**L**	
			*	
			*	
			*	
			*	

Supplementary information: * Only when a protection system actuates at Upper limit of the range
** If a thermocouple is used to measure winding temperature the insulation class shall be reported next to the ΔT (K) limit

	If the resistance method is used to measure winding temperature		
	Ambient, t_1 (°C) :		—
	Ambient, t_2 (°C) :		—

Temperature rise of winding	**R_1 (Ω)**	**R_2 (Ω)**	**ΔT (K)**	**Max. ΔT (K)**	**Insulation class**

Supplementary information: Test voltage for the results reported =

19	TABLE: Abnormal operation conditions						P
Operational characteristics			**YES/NO**	**Operational conditions**			
Are there electronic circuits to control the appliance operation?			No	-			
Are there "off" or "stand-by" position?			No	-			
The unintended operation of the appliance results in dangerous malfunction?			No	-			
Sub-clause	**Operating conditions description**	**Test results description**	**PEC description**	**EMP 19.11.4**	**Software type required**	**19.11.3 PEC**	**Final result**
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	Lock Fan motor / synchronous motor / Submersible pump	no hazard	N/A	N/A	N/A	N/A	P
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
19.11.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.11.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.11.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.11.4.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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
19.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.17	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Supplementary information: * Only when a non-self-resetting thermal cut-out or a intentionally weak part actuate at upper limit and does not at a lower limit							

19.7	TABLE: Abnormal operation, locked rotor/moving parts				P
	Test voltage (V) :		240 V		—
	Ambient, t_1 (°C) :				—
	Ambient, t_2 (°C) :				—
Temperature rise of winding	**R_1 (Ω)**	**R_2 (Ω)**	**ΔT (K)**	**T (°C)**	**Max. T (°C)**
Fan motor winding (t1: 24.9 °C, t2: 24.8 °C)	567	824	118	142	225
Synchronous motor winding (t1: 22.7 °C, t2: 23.1 °C)	25.4	33.1	78	101	165
Supplementary information:					

19.7	TABLE: Abnormal operation, locked rotor/moving parts				N/A
	Test voltage (V) :		Test voltage = Frequency = U = Upper limit of the range		—
	Ambient, t_1 (°C) :				—
	Ambient, t_2 (°C) :				—
Temperature rise of winding	**R_1 (Ω)**	**R_2 (Ω)**	**ΔT (K)**	**T (°C)**	**Max. T (°C)**
Supplementary information:					

19.7	TABLE: Abnormal operation, locked rotor/moving parts				N/A
	Test voltage (V) :		Test voltage = Frequency = M = Mean of range*		—
	Ambient, t_1 (°C) :				—
	Ambient, t_2 (°C) :				—
Temperature rise of winding	**R_1 (Ω)**	**R_2 (Ω)**	**ΔT (K)**	**T (°C)**	**Max. T (°C)**
Supplementary information: * Only when a non-self resetting thermal cut-out or a intentionally weak part actuate at upper limit of the range and does not at a lower limit					

19.7	TABLE: Abnormal operation, locked rotor/moving parts				N/A
	Test voltage (V) :		Test voltage = Frequency = L = Lower limit of the range*		—
	Ambient, t_1 (°C) :				—
	Ambient, t_2 (°C) :				—
Temperature rise of winding	**R_1 (Ω)**	**R_2 (Ω)**	**ΔT (K)**	**T (°C)**	**Max. T (°C)**
Supplementary information: * Only when a non-self resetting thermal cut-out or a intentionally weak part actuate at upper limit of the range and does not at a lower limit					

19.9	TABLE: Abnormal operation, running overload				N/A
	Test voltage (V) :		Test voltage = Frequency = R = One rated voltage		—
	Ambient, t_1 (°C) :				—
	Ambient, t_2 (°C) :				—
Temperature rise of winding	**R_1 (Ω)**	**R_2 (Ω)**	**ΔT (K)**	**T (°C)**	**Max. T (°C)**
Supplementary information:					

19.9	TABLE: Abnormal operation, running overload				N/A
	Test voltage (V) :		Test voltage = Frequency = L = Lower limit of the range*		—
	Ambient, t_1 (°C) :				—
	Ambient, t_2 (°C) :				—
Temperature rise of winding	**R_1 (Ω)**	**R_2 (Ω)**	**ΔT (K)**	**T (°C)**	**Max. T (°C)**
Supplementary information: * Only when a non-self resetting thermal cut-out or a intentionally weak part actuate at upper limit of the range and does not at a lower limit					

19.9	TABLE: Abnormal operation, running overload				N/A
	Test voltage (V) :		Test voltage = Frequency = U = Upper limit of the range		—
	Ambient, t_1 (°C) :				—
	Ambient, t_2 (°C) :				—
Temperature rise of winding	**R_1 (Ω)**	**R_2 (Ω)**	**ΔT (K)**	**T (°C)**	**Max. T (°C)**
Supplementary information:					

19.13	TABLE: Abnormal operation, temperature rises	N/A
Thermocouple locations	**Max. temperature rise measured, ΔT (K)**	**Max. temperature rise limit, ΔT (K)**
Supplementary information:		

21.1	TABLE: Impact resistance			P
Impacts per surface	**Surface tested**	**Impact energy (Nm)**	**Comments**	

Three times	Enclosure/ Control panel	0.5	pass
Supplementary information:			

24.1	TABLE: Critical components information				
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
Plug	Dongguan Ubill Electrical Co., Ltd	YG-101	AC250V; 2,5A	DIN VDE 0620 Teil 101: 1992-05 EN 50075: 1990	VDE 40049728
-Alternative	Zhongshan Jin Kai Rui Electrical Co Ltd	JKR-202	AC250V; 2,5A	DIN VDE 0620 Teil 101: 1992-05 EN 50075: 1990	VDE 40037357
-Alternative	Dongguan Poweryuan Wire Industries Co., Ltd	LY-807	AC250V; 2,5A	DIN VDE 0620 Teil 101: 1992-05 EN 50075: 1990	VDE 40039712
-Alternative	Foshan Shunde Zhifeng Cable Co., Ltd	ZF-225V	AC250V; 2,5A	DIN VDE 0620 Teil 101: 1992-05 EN 50075: 1990	VDE 40058166
-Alternative	Jiangmen Brothers Wire & Cable,Co., Ltd.,	XD-121	AC250V; 2,5A	DIN VDE 0620 Teil 101: 1992-05 EN 50075: 1990	VDE 40052343
Supply cord	Dongguan Ubill Electrical Co., Ltd	H05VV-F 2X0.75mm H05VVH2-F 2X0.75mm	H05VV-F 2X0.75mm H05VVH2-F 2X0.75mm	EN 50525-2-11 (VDE 0285-525- 2-11):2012-01 EN 50525-2-11: 2011	VDE 40042748
-Alternative	Zhongshan Jin Kai Rui Electrical Co Ltd	H05VV-F 2X0.75mm H05VVH2-F 2X0.75mm	H05VV-F 2X0.75mm H05VVH2-F 2X0.75mm	EN 50525-2-11 (VDE 0285-525- 2-11):2012-01 EN 50525-2-11: 2011	VDE 40035718
-Alternative	Dongguan Poweryuan Wire Industries Co., Ltd	H05VV-F 2X0.75mm H05VVH2-F 2X0.75mm	H05VV-F 2X0.75mm H05VVH2-F 2X0.75mm	EN 50525-2-11 (VDE 0285-525- 2-11):2012-01 EN 50525-2-11: 2011	VDE 40038705
-Alternative	Jiangmen Brothers Wire & Cable, Co., Ltd.,	H05VV-F 2X0.75mm H05VVH2-F 2X0.75mm	H05VV-F 2X0.75mm H05VVH2-F 2X0.75mm	EN 50525-2-11 (VDE 0285-525-2-11):2012-01 EN 50525-2-11: 2011	VDE 40049949

Internal wire	Guangdong Xinlong Enterprise Co Ltd	1007 1015 2468	20/22/24AWG; 300V; 80℃/105℃	UL758 EN 60335-1 EN 60335-2-98	UL E207567
-Alternative	ZHONGSHAN CITY BOYU WIRE Co LTD	1007 1015 2468	22/24/26AWG; 300V; 80℃/105℃	UL758 EN 60335-1 EN 60335-2-98	UL E314089
-Alternative	DONGGUAN ZELONGKANG WIRE CO., LTD	1007 2468	24/26AWG; VW-1; 300Vac; 80℃	UL758 EN 60335-1 EN 60335-2-98	UL E330488
-Alternative	DONGGUAN CHENG XING ELECTRONIC CO LTD	1007 1672	18/24AWG; VW-1; 300Vac; 80℃ /105°C;	UL758 EN 60335-1 EN 60335-2-98	UL E249743
-Alternative	HUNAN Yangtai Wire &Cable Co. Ltd	1007	24AWG; VW-1; 300Vac; 80℃	UL758 EN 60335-1 EN 60335-2-98	UL E357720
-Alternative	HUI ZHOU BIN DA ELECTRON CO LTD	1007	24AWG; VW-1; 300Vac; 80℃	UL758 EN 60335-1 EN 60335-2-98	UL E332295
-Alternative	DONGGUAN WENCHANG ELECTRONIC CO LTD	1007	24AWG; VW-1; 300Vac; 80℃	UL758 EN 60335-1 EN 60335-2-98	UL E214500
-Alternative	SHENZHEN HENG DIAN ELECTRIC CO LTD	1007 2468	24/26AWG; VW-1; 300Vac; 80℃	UL758 EN 60335-1 EN 60335-2-98	UL E252861
-Alternative	SHANGHAI XINHUI WIRE & CABLE CO LTD	1007	24AWG; VW-1; 300Vac; 80℃	UL758 EN 60335-1 EN 60335-2-98	UL E330134
-Alternative	Zhongshan Heyi Electria Appliance Co., Ltd.	2468	22/24/26AWG; 300V; 80℃	UL758 EN 60335-1 EN 60335-2-98	UL E313976
-Alternative	DONGGUAN JIAPENG INDUSTRIAL CO LTD	2468	26AWG; VW-1; 80℃; 300VAC	UL758 EN 60335-1 EN 60335-2-98	UL E330104
-Alternative	GUANGDONG YONGROI CABLE TECHNOLOGY CO LTD	2468	26AWG; VW-1; 80℃; 300VAC	UL758 EN 60335-1 EN 60335-2-98	UL E204893
-Alternative	ZHONGSHAN FUYUANTONG WIRE &CABLE	2468	26AWG; VW-1; 80℃; 300VAC	UL758 EN 60335-1 EN 60335-2-98	UL E241989

	CO LTD				
-Alternative	GUANGDONG DONGJU WIRE & CABLE CO LTD	2468	26AWG; VW-1; 80℃; 300VAC	UL758 EN 60335-1 EN 60335-2-98	UL E189674
-Alternative	DONGGUAN QIANGHUA ELECTRONIC TECHNOLOGY CO LTD	2468	26AWG; VW-1; 80℃; 300VAC	UL758 EN 60335-1 EN 60335-2-98	UL E346850
-Alternative	FOSHAN SHUNDE JIA FENG SHOU PLASTICS MFG CO LTD	2468	26AWG; VW-1; 80℃; 300VAC	UL758 EN 60335-1 EN 60335-2-98	UL E331775
-Alternative	FOSHAN GENHAO ELECTRIC CO LTD	2468	26AWG; VW-1; 80℃; 300VAC	UL758 EN 60335-1 EN 60335-2-98	UL E251422
-Alternative	KAI TAT INDUSTRIES CO LTD	2468	26AWG; VW-1; 80℃; 300VAC	UL758 EN 60335-1 EN 60335-2-98	UL E214382
-Alternative	SHENZHEN DINGYU ELECTRICAL TECHNOLOGY CO LTD	1672	105℃; 300VAC; 18 AWG	UL758 EN 60335-1 EN 60335-2-98	UL E365423
Fan motor	Ying Pai Electrical Appliance Co.,Ltd	YH7116-B	220V/50Hz;Class B	IEC 60335-1	Tested with appliance
-Alternative	Zhongshan Zhaoge Electric Appliance Co.,Ltd	YH7116-B	220V/50Hz;Class B	IEC 60335-1	Tested with appliance
Motor running capacitor	Foshan Nanhai Yongsheng Electronic Co.,Ltd	CBB61S	450VAC; 50/60Hz; 1.0-2.0uF; ClassC; S3;40/70/21	EN 60252-1:2011+A1	TUV R50366016
	Foshan Caiying Electronics Limited	CBB61	450VAC; 50/60Hz; 1.0-1,5uF; ClassB; S3;25/70/21	EN 60252-1:2011/A1:2013	TUV 6810024004101

	Foshan Shunde Fongming Tech. Co., Ltd.	CBB61	450VAC; 50/60Hz; 1,0-2.0uF; ClassB; S3;25/70/21	EN 60252-1:2011/A1:2013	TUV R 50163114
Thermal motor protector	ZHANGZHOU AUPO ELECTRONICS CO.,LTD	A5-F	AC250V 135℃	EN 60691 (VDE 0821):2019-10; EN 60691:2016+A1:2019 IEC 60691:2015 IEC 60691:2015/AMD1:2019	VDE 40008720
-Alternative	Chang Zhou City Tong Li Electronic Co.,Ltd	KW-135℃ 6A	KW-135℃ /6A;2000cycles	IEC 60730-1：2013+A1：2015 IEC 60730-2-22：2014 EN60730-1(VDE0631-1):2021-06:;EN60730-1:2016+A12019 EN IEC 60730-2-22(VDE 0631-2-22):2020-10;EN IEC 60730-2-22：2020	VDE 40004418
	Fonshan Changhong Tongli Electric Appliance Co.,Ltd	KW135	AC250V 135℃	EN 60730-1(VDE 0631-1):2017-05;EN 60730-1:2016 EN60730-1:2016/A1:2019 EN/IEC 60730-2-22:2020 IEC 60730-1:2013 IEC 60730-1:2013/A1:2015 IEC 60730-1:2013/A2:2020	VDE 40020906
	Chang Zhou City Tong Li Electronic Co. Ltd.	KW135	AC250V 135℃	EN 60730-1(VDE 0631-1):2021-06;EN60730-1:2016+A1:2019 EN IEC 60730-2-22(VDE 0631-2-22):2020-10;EN IEC 60730-2-22: 2020	VDE 40004418
Synchronous motor	NINGBO ZHENGTONG CALCULAFRA PH CO.,LTD	YH-F63-B	220V/50Hz; 4W; 2,5/3RPM; Class E	IEC 60335-1	Tested with appliance
-Alternative	Zhonghan shidong MOTOR CO.,LTD.	YH-F63-B	220V/50Hz; 4W; 2,5/3RPM; Class E	IEC 60335-1	Tested with appliance

Close-end connector	Qingdao General Electronic Plastic Industry Co., Ltd	CE2X	CE2X	IEC 60335-1	Tested with appliance
Power connector on humidifier PCB	YUEQING CHANGSHUN ELECTRONICS CO LTD	CS39602	VH; 3,96mm; 250V; 6A; -25℃ ~85℃	IEC 60335-1	Tested with appliance
Main PCB	KINGBOARD LAMINATES HOLDINGS LIMITED	KB	KB5152; FV0; CEM-1 (KB5150)	IEC 60335-1	Tested with appliance UL E123995
-Alternative	SHANDONG JINBAOELECTRONICS CO LTD	ZD	ZD-95(G)F94V-0; 130°C	IEC 60335-1	Tested with appliance UL E141940
-Alternative	FUJIAN LIHAO ELECTRONIC TECHNOLOGY CO LTD	L-40F/L-60F/L-80/L-90F/L-40F	CEM-1; V-0/22F V-1/XPC; HB/FR- 1 V-0/CEM-1; V- 0	IEC 60335-1	Tested with appliance UL E193288
-Alternative	MEIZHOU WEILIBANG ELECTRONIC TECHNOLOGY CO LTD	WLB8282/W8282/W-8286/W-8281	22F; V-0/22F; V-0/CEM-1; V-0/XPC; HB	IEC 60335-1	Tested with appliance UL E354175
-Alternative	SHANGHAI GLOBAL ELECTRONIC MATERIAL LTD.	FR-4-GDM-R1, FR-4-GEM-R1, FR-4-ILM-R1	94V-0; 130℃	EN 60695-11-10 (VDE 0471-11-10):2014-10; EN 60695-11-10:2013	VDE 40053807
-Alternative	KINGBOARD LAMINATES HOLDINGS LTD	KB-5150 KB-5152 KB-3151C KB6150	94V-0; 130℃	IEC 60335-1	Tested with appliance UL E123995
-Alternative	SHANDONG JINBAO TECHINNOV CORPORATION	ZD-95(G)F ZD-90F	94V-0; 130℃	IEC 60335-1	Tested with appliance UL E141940
-Alternative	ZHONGSHAN LIXIN CHAIN-BOARD CO LTD	CEM-1	94V-0; 130℃	IEC 60335-1	Tested with appliance UL E230073
-Alternative	SHUNDE JUN'AN SHENGSHENG ELECTRONIC CO LTD	S-1 S-1D S-VO	94V-0; 130℃	IEC 60335-1	Tested with appliance UL E240257
-Alternative	FOSHAN CITY YE FENG SHAN TIAN ELECTRICAL	YF-1 YF-2	94V-0; 130℃	IEC 60335-1	Tested with appliance UL E355240

	ASSISTANT LTD				
-Alternative	SHUNDE JUNDA ELECTRONIC CO LTD	JD-D	94V-0; 130℃	IEC 60335-1	Tested with appliance UL E173873
-Alternative	MEIXIAN JINJIANG CIRCUIT BOARA CO., LTD	JJ-VO JJ-V1	94V-0; 130℃	IEC 60335-1	Tested with appliance UL E343859
-Alternative	LOMBER CIRCUITS (HUIZHOU) LTD	04V0(ASP 1) FRV03A FRV02	V-0; 130℃	IEC 60335-1	Tested with appliance UL E314348
-Alternative	Foshan Junze Electronics Co., Ltd	JZ-C(ASP 1) JZ-F	V-0; 130℃	IEC 60335-1	Tested with appliance UL E330831
-Alternative	Guangdong Chengde Electronic Technology Co Ltd	1 2	V-0; 130℃	IEC 60335-1	Tested with appliance UL E322995
-Alternative	Foshan Shunde District Guobang Electronics Co., Ltd	GB-C(ASP1) GB-S(ASP1)	V-0; 130℃	IEC 60335-1	Tested with appliance UL E539921
-Alternative	ZHONGSHAN LIXIN CHAIN-BOARD CO LTD	CEM-1	V-0; 130℃	IEC 60335-1	UL E230073
-Alternative	KAIMAU ELECTRONICS CO LTD	4 CEM 2V0	V-0; 130℃	IEC 60335-1	Tested with appliance UL E237305
Fuse on main PCB	XC Electronics (Shen Zhen) Corp. Ltd.	5TE	10A; 250V	IEC 60127-1:2006+A1+A2; IEC 60127-3:2015; EN 60127-1:2006+A1+A2; EN 60127-3:2015	VDE 40029550
Fuse on humidifier PCB	XC Electronics (Shen Zhen) Corp. Ltd.	5TE	T2,5A; 250VAC	IEC 60127-1:2006+A1+A2; IEC 60127-3:2015; EN 60127-1:2006+A1+A2; EN 60127-3:2015	VDE 40029550

-Alternative	Dongguan Hongda Electronic Technology Co., Ltd.	2009	T2,5A; 250VAC	IEC 60127-1:2006+A1+A2; IEC 60127-3:2015; EN 60127-1:2006+A1+A2; EN 60127-3:2015	VDE 40028260
-Alternative	Shanghai Fullness Electrical Co., Ltd	TSP	T2,5A; 250VAC	EN 60127-1:2006+A1; EN 60127- 3:2015; IEC 60127-1:IEC 60127-3;	TUV Rh R50315914
-Alternative	Dongguan Better Electronics Technology Co., Ltd.	932	T2,5A; 250VAC	IEC 60127-1:2006+A1+A2; IEC 60127-3:2015; EN 60127-1:2006+A1+A2; EN 60127-3:2015	VDE 40033369
-Alternative	Zhongshan Lanbao Electrical Appliances Co., Ltd.	TR; TB	T2,5A; 250VAC	EN 60127-1:2006+A1+A2 EN 60127-3:2015	TUV J50420445 CB CN45229
Y2 capacitor	Haohua Electronic Co.Ltd.	CT7	AC250V; 2200pF; T125	IEC 60384-14:2013+A1; EN 60384-14:2013+A1	VDE 40013601
-Alternative	Shenzhen Song Te Electronics Co.Ltd.	CT7	AC250V; 2200pF; T125	IEC 60384-14:2013+A1; EN 60384-14:2013+A1	VDE 40044449
-Alternative	Guangdong Huiwan Electronics Technology Co., LTD.	AB	AC300V; 2200pF; T125	IEC 60384-14:2013+A1; EN 60384-14:2013+A1	VDE 40043991
Transformer on humidifier	FOSHAN SHUNDE UM ELECTRONICS CO., LTD.	HYT0248/C E16	Class B	IEC 60335-1	Tested with appliance
-Transformer bobbin	CHANG CHUN PLASTICS CO., LTD	T375J(G5)(G6)	V-0; 130℃	IEC 60335-1	Tested with appliance UL E59481
-Magnet wire	SIHUI HENGHUI ELECTRICAL APPLIANCES	2UEW	V-0; 155℃	IEC 60335-1	Tested with appliance UL E337948

	CO. ，LTD				
-Insulation tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT-280B	V-0; 130℃	IEC 60335-1	Tested with appliance UL E165111
-Triple insulation wire	Shanghai Lucky Trade Co., Ltd.	TIW-B; TIW-F; TIW-L	0,15 mm - 1,00 mm (AWG35-AWG18); 250℃	IEC 60335-1	VDE 40023686
Optocoupler	Everlight Electronics Co., Ltd.	EL817	T110	IEC 60747-5-5:2007+A1; EN 60747-5-5:2011+A1	VDE 132249
-Alternative	Bright Led Electronics Corp	BPC-817C	T110	IEC 60747-5-5:2007+A1; EN 60747-5-5:2011+A1	VDE 40007240
-Alternative	China Resources Semiconductor (ShenZhen)Ltd.	PC817C	T110	IEC 60747-5-5:2007+A1; EN 60747-5-5:2011+A1	VDE 40042139
-Alternative	Shenzhen Orient Components Co. ，Ltd.	ORPC-817Mc	T110	IEC 60747-5-5:2007+A1; EN 60747-5-5:2011+A1	VDE 40029733
X capacitor	Tenta Electric Lndustrial Co. Ltd.,	MEX; MKP	0,1uF; 275VAC; 40/100/21	EN 60384-14	TUV 119119
Relay	Zhongshan City NaJie Electronic Technology Co., Ltd	YC3F-5VDC-S-A	10A; 277VAC; 100000 Operations Min (at 10A 250VAC/30VDC); -40℃~+105℃	EN 61810-1:2015+A1	TUV R 50607012 0001
Varistor	Huizhou Songlong Xindian Electronic Technology Co., LTD	10D471K	470V; 8/20μS; T85	IEC 61051-1	VDE 40028836 ; VDE 40030322
-Alternative	Hongzhi Enterprises Ltd.,	10D471K	470V; 8/20μS; T85	IEC 61051-1	VDE 40037512
DC fan of humidifier	Foshan Kexuan Electronic Technology Co., Ltd	GM-12V-A01	DC12V; Class A	IEC 60335-1	Tested with appliance
-Alternative	Zhongshan Ningling Electronic	GM-12V-A01	DC12V; Class A	IEC 60335-1	Tested with appliance

	Technology Co., Ltd				
Plastic enclosure of fan motor / water tank / knob / Plastic enclosure of humidifier	LG CHEMICAL LTD	HI-121 HI121A HI-121H	ABS	IEC 60335-1	Tested with appliance UL E203955
-Alternative	CHI MEI CORPORATION	PA-777D	ABS	IEC 60335-1	Tested with appliance UL E56070
Plastic enclosure of control panel	China Petroleum & Chemical Corporation	CJS700	PP	IEC 60335-1	Tested with appliance

25.16	TABLE:			N/A
Supply Cord Designation **Lightest permissible type**	**Smallest cross-sectional area (mm^2)**	**Supply Cord Designation** **Next heavier permissible type**	**Largest cross-sectional area (mm^2)**	**Verdict**
Supplementary information: For Type X attachment the appliance was supplied with supply cord (See 25.7) Type =…….cross-sectional area = mm^2				

25.17	TABLE:				P
Supply Cord Designation **Supplied type** **(See 25.7)**	**Cross-sectional area (mm^2)**	**Verdict**	**Supply Cord Designation** **Listed alternative type in 24.1 Table**	**cross-sectional area (mm^2)**	**Verdict**
60227 IEC 53	2×0.75	Pass	60227 IEC 53	2×0.75	Pass
Supplementary information: For Type Y attachment the appliance was supplied with supply cord (See 25.7) Type =…….cross-sectional area = mm^2					

28.1	TABLE: Threaded part torque test		P
Threaded part identification	**Diameter of thread (mm)**	**Column number (I, II, or III)**	**Applied torque (Nm)**
Enclosure fixed screw	4.1	II	1.2
Supplementary information:			

29	TABLE: Clearance and creepage distance measurements					
Clearance cl and creepage distance dcr at/of:	**Up (V)**	**U r.m.s. (V)**	**Required cl (mm)**	**cl (mm)**	**Required dcr (mm)**	**dcr (mm)**
Basic insulation	-	240	1.5	＞1.95	4.0	＞5.20
Functional insulation	-	240	1.5	＞1.95	4.0	＞5.20
Supplementary insulation	-	240	1.5	＞1.95	4.0	＞5.20
Reinforced insulation	-	240	3.0	＞3.90	8.0	＞10.40
Supplementary information:						

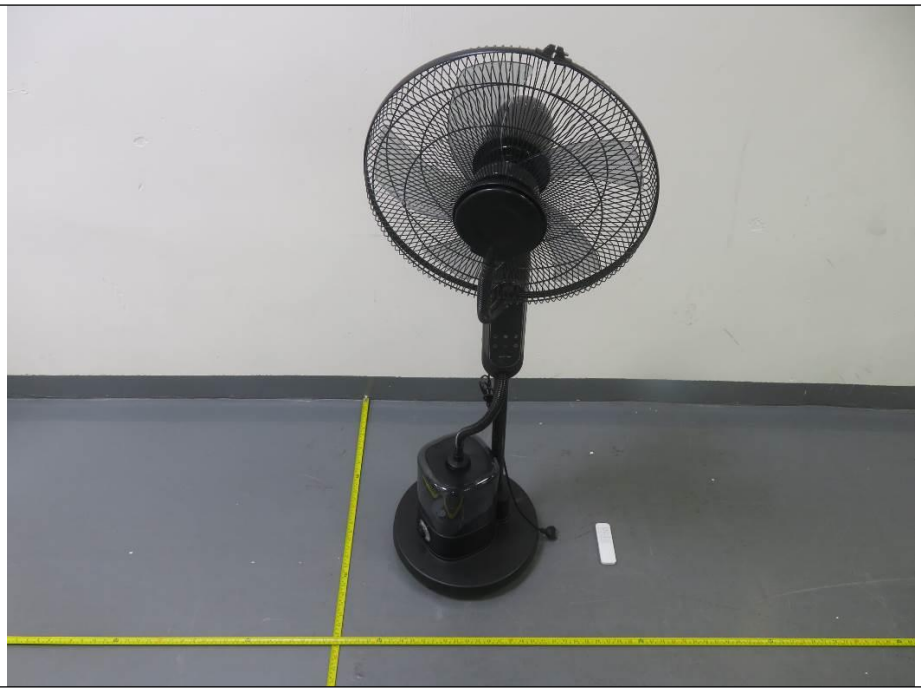
30.1	TABLE: Ball pressure test of thermoplastics		P
Allowed impression diameter (mm).....:		2.0	—
Object/ Part No./ Material	**Manufacturer/ trademark**	**Test temperature (°C)**	**Impression diameter (mm)**
Enclosure	see table 24.1	75	1.2
Supplementary information:			

30.2	TABLE: Resistance to heat and fire - Glow wire tests							P
Object/ Part No./ Material	**Manufacturer / trademark**	**Glow wire test (GWT); (°C)**						**Verdict**
		550	**650**		**750**		**850**	
			te	**ti**	**te**	**ti**		
Enclosure/ Fan blade	see table 24.1	√	-	-	-	-	-	P
End-closed connector	see table 24.1	-	-	-	0 s	0 s	√	P
Fan motor bobbin	-	-	-	-	0 s	0 s	√	P
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) :								Yes
If no, then surrounding parts passed the needle-flame test of annex E (Yes/No) :								N/A
The test specimen passed the test by virtue of most of the flaming material being withdrawn with the glow-wire (Yes/No)? :								N/A
Ignition of the specified layer placed underneath the test specimen (Yes/No) :								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. Indicate the voltage for obtaining the current upon which the GWT severity is based: If marked with a rated voltage: Rated voltage □ If marked with a rated voltage range: Lower limit of voltage range; □ Upper limit of voltage range □								

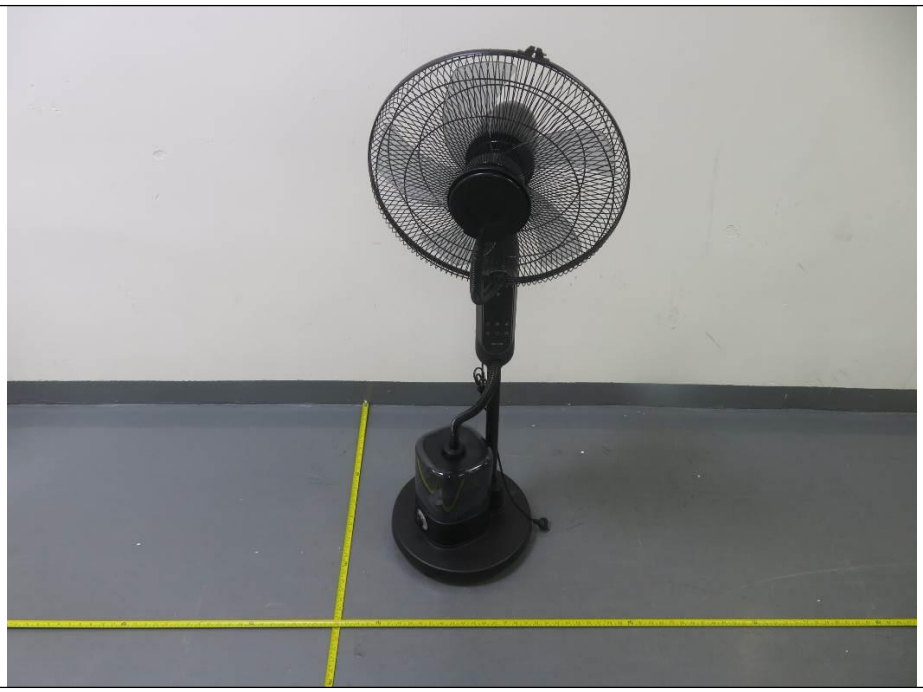
30.2/30.2.4	TABLE: Needle-flame test (NFT)				N/A
Object/ Part No./ Material	**Manufacturer/ trademark**	**Duration of application of test flame (ta); (s)**	**Ignition of specified layer Yes/No**	**Duration of burning (tb) (s)**	**Verdict**
Supplementary information: **NFT not relevant (or applicable) 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**					

Attachment No.1 **Product Photos**

Details of: Fig. 1

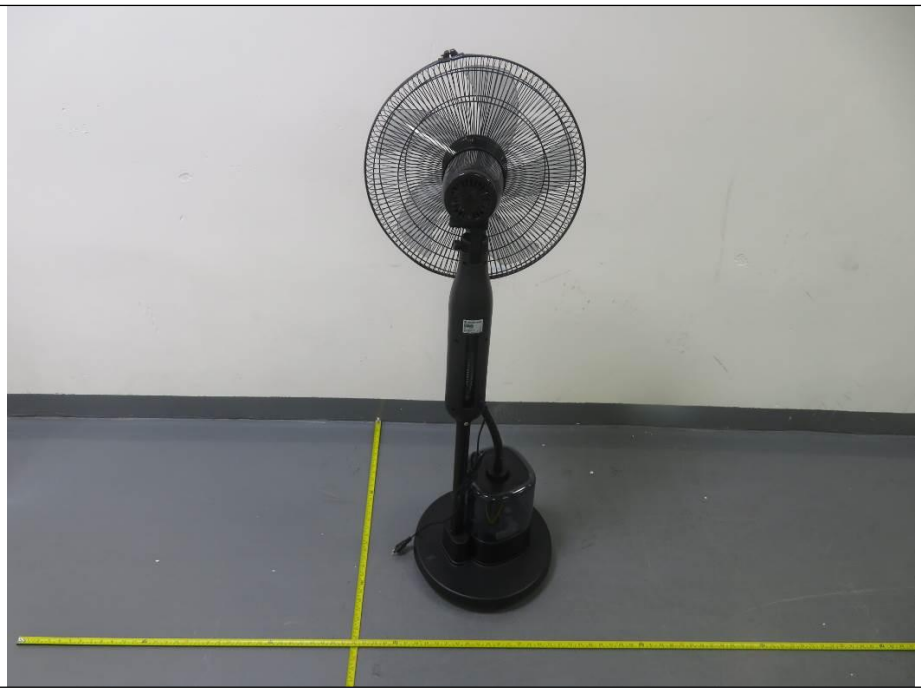


Details of: Fig. 2



Attachment No.1 **Product Photos**

Details of: Fig. 3



Details of: Fig. 4

Attachment No.1 **Product Photos**

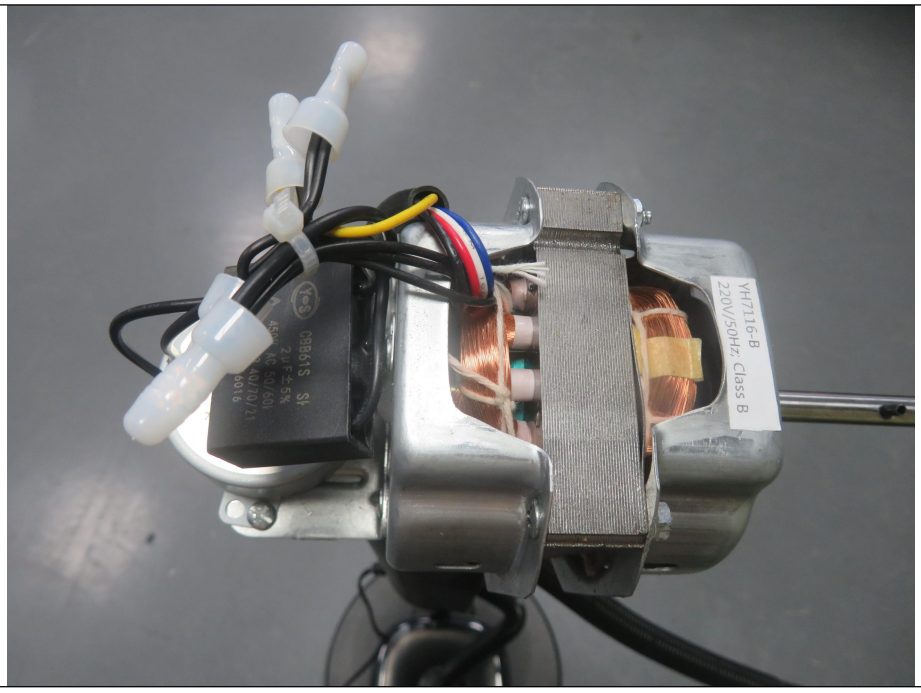
Details of: Fig. 5

Details of: Fig. 6

Attachment No.1 **Product Photos**

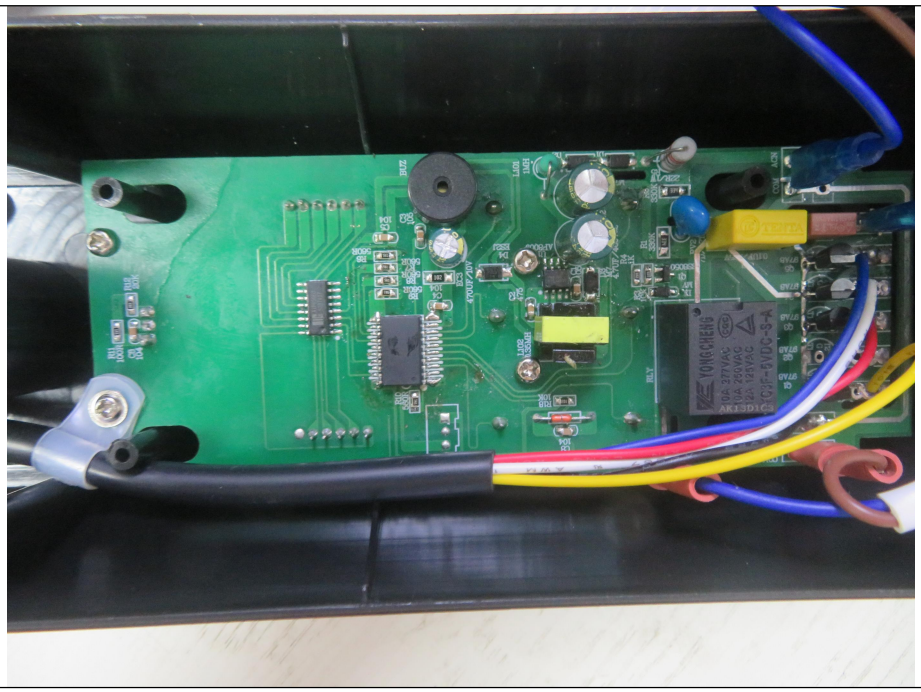
Details of: Fig. 7

Details of: Fig. 8

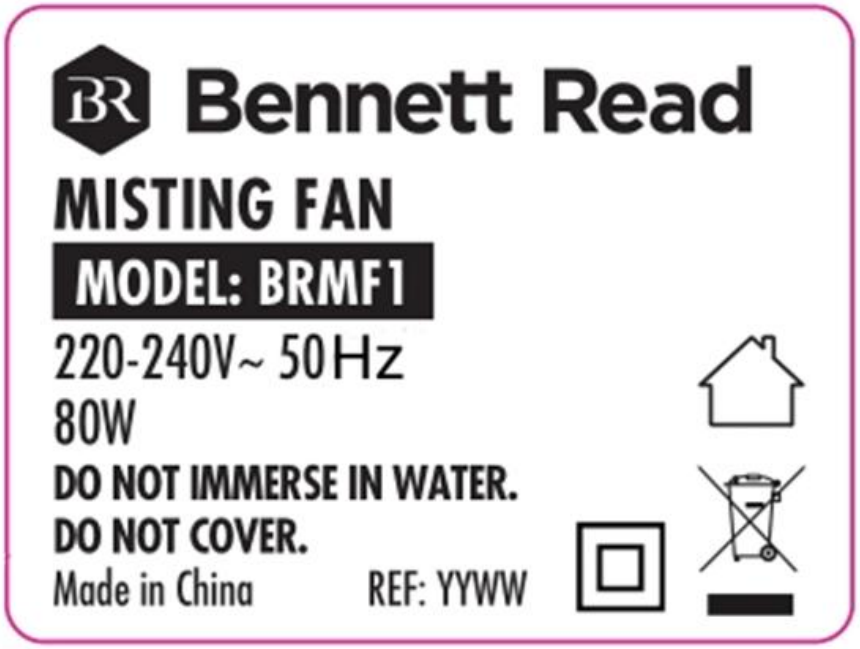


Details of: Fig. 9

Attachment No.1 **Product Photos**



Details of: Fig. 10



- End of test report -