

Test Report issued under the responsibility of:



TEST REPORT IEC 60335-1

Safety of household and similar electrical appliances

 Report Number.
 6077845.50A

 Date of issue
 2020-05-14

 Total number of pages
 82 pages

Name of Testing Laboratory DEKRA Testing and Certification (Shanghai) Ltd.

Economy Park Shibei Hi-Tech Park, Jing'an District, Shanghai,

200436, China

Applicant's name...... LEE YEONG INDUSTRIAL CO., LTD.

Test specification:

Standard IEC 60335-1:2010, COR1:2010, COR2:2011, AMD1:2013,

COR1:2014, AMD2:2016, COR1:2016

Test procedure CB Scheme

Non-standard test method.....: N/A

 Test Report Form No......
 IEC60335_1X

 Test Report Form(s) Originator.....:
 Nemko AS

 Master TRF......
 Dated 2016-10

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Test item description: EL		ELECT	ECTRIC AIRLESS SPRAYER		
Trade Mark AGP					
Manufacturer LEE YE		YEONG INDUSTRIAL CO., LTD.			
		1		unlin County 64057, Taiwan	
Mod	el/Type reference:			0; SLP-1102; MP21; S7021; 12; HA14; ED6; ED8; ED10; ED12;	
		ED14;	DS6; DS8, DS10; DS12	, DS14; S3-110; S3-240	
Ratii	ngs:	110-12	20 V or 220-240 V;50-60	Hz; 700 W; Class I	
Poor	onsible Testing Laboratory (as a	nnliaak	olo) tosting procedure	and testing leastion(s):	
-	oonsible Testing Laboratory (as a	аррпсак	T		
	CB Testing Laboratory:			ertification (Shanghai) Ltd.	
Test	ing location/ address	·····::		n Road, Building 16, Headquarter Hi-Tech Park, Jing'an District, na	
Test	ed by (name, function, signature)):	David Yang	David Yang Pant wa	
Аррі	roved by (name, function, signatu	ure) :	Paul Liu	Panl un	
	Testing procedure: CTF Stage 1				
_	ing location/ address				
	ed by (name, function, signature)				
	eved by (name, function, signature)	<u> </u>			
/ tpp	Trouby (name, ranotion, orginate				
	Testing procedure: CTF Stage 2	÷			
Test	ing location/ address	:			
Test	ed by (name + signature)	:			
Witn	essed by (name, function, signat	ure). :			
App	oved by (name, function, signate	:			
	Testing procedure: CTF Stage 3				
	<u> </u>				
Testing procedure: CTF Stage 4:					
	ing location/ address				
	ed by (name, function, signature)	·			
	essed by (name, function, signat				
<u> </u>	oved by (name, function, signatu				
Supe	ervised by (name, function, signa	iture) :			

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

Test report constituents:

- 6077845.50A covering IEC 60335-1 and pictures (total 82 pages)
- 6077845.50B covering EU group differences to IEC 60335-1(total 15 pages)
- 6077845.50C covering EN 50580 (except clause 6; total 7 pages)

Summary of testing:

Tests performed (name of test and test clause):

Testing location:

DEKRA Testing and Certification (Shanghai) Ltd. 3F #250 Jiangchangsan Road Building 16 Headquarter Economy Park Shibei Hi-Tech Park, Jing'an District Shanghai 200436 CHINA

Summary of compliance with National Differences (List of countries addressed):

This appliance is tested to and complies with EN 60335-1: 2012 +A11:2014 +A13:2017+ A1:2019+A14:2019 +A2:2019 and EN 50580:2012+A1:2013 (except clause 6) thus complying with the EU group differences.

Copy of marking plate



The labels of all types are same as EC021, only the models' names are different.

Test item particulars:	Electric Airless Sprayer		
Classification of installation and use:	Stationary appliance		
Supply Connection:	Type Y attachment		
:	Non-detachable flexible cord with 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:	2015-07-05		
Date (s) of performance of tests:	2015-07-05~2015-08-18		
Modification-1 report:	2020-05-14		
General remarks:			
"(See Enclosure #)" refers to additional information ap "(See appended table)" refers to a table appended to tl Throughout this report a comma / point is u The equipment also comply with the following standard	ne report. sed as the decimal separator.		
IEC 60335-1:2010+A1:2013+A2:2016 and EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A14 EN 50580:2012+A1:2013 (except clause 6); EN 62233			
This report was based on report with reference No (CB certificate NL-37417, dated 2015-08-24).	o. 3158744.50 dated 2015-08-19 and replaces it.		
Manufacturer's Declaration per sub-clause 4.2.5 of	IECEE 02:		
The application for obtaining a CB Test Certificate ncludes 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			
When differences exist; they shall be identified in t	he General product information section.		
Name and address of factory (ies):	LEE YEONG INDUSTRIAL CO., LTD. No.2, Kejia Rd., Douliu City, Yunlin County 64057, Taiwan		
General product information:			
The electric airless sprayer can only use guns for spraidentical, only the models' names are different.	aying non-flammable materials. All types are		

Modification 1 report:

The original Test Report Ref. No. 3158744.50 dated 2015-08-19 include the following changes and/or addition, which were considered technical modifications.

- Standard update to EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A14:2019+A2:2019
 Added new types which are identical with EC021, only the models' names are different. After review, no tests considered were necessary.

	IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict	
5	GENERAL CONDITIONS FOR THE TESTS		Р	
	Tests performed according to clause 5, e.g. nature of supply, sequence of testing, etc.		Р	
6	CLASSIFICATION		Р	
6.1	Protection against electric shock: Class 0, 0I, I, II, III:	Class I	Р	
	For a class III construction with a detachable power supply part the appliance is classified according to the detachable power supply part		N/A	
6.2	Protection against harmful ingress of water		N/A	
7	MARKING AND INSTRUCTIONS		Р	
7.1	Rated voltage or voltage range (V):	110-120 or 220-240	Р	
	Symbol for nature of supply, or:	~	Р	
	Rated frequency (Hz):	50-60	Р	
	Rated power input (W), or:	700 W	Р	
	Rated current (A):		N/A	
	Manufacturer's or responsible vendor's name, trademark or identification mark:	LEE YEONG INDUSTRIAL CO., LTD. No.2, Kejia Rd., Douliu City,	Р	
		Yunlin County 64057, Taiwan		
	Model or type reference:	EC021; FARBMAX Airless 1900; SLP-1102; MP21; S7021; QP019; HA6; HA8; HA10; HA12; HA14; ED6; ED8; ED10; ED12; ED14; DS6; DS8, DS10; DS12, DS14; S3-110; S3-240	P	
	Symbol IEC 60417-5172, for class II appliances		N/A	
	IP number, other than IPX0:		N/A	
	Symbol IEC 60417-5180, for class III appliances, unless		N/A	
	the appliance is operated by batteries only, or		N/A	
	for appliances powered by rechargeable batteries recharged in the appliance		N/A	
	Symbol IEC 60417-5018, for class II and class III appliances incorporating a functional earth		N/A	

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Symbol IEC 60417-5036, for the enclosure of electrically-operated water valves in external hosesets for connection of an appliance to the water mains, if the working voltage exceeds extra-low voltage		N/A
7.2	Warning for stationary appliances for multiple supply		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		Р
	Different rated values marked with the values separated by an oblique stroke		N/A
7.4	Appliances adjustable for different rated voltages or rated frequencies, the voltage or the frequency setting is clearly discernible		N/A
	Requirement met if frequent changes are not required and the rated voltage or rated frequency to which the appliance is to be adjusted is determined from a wiring diagram		N/A
7.5	Appliances with more than one rated voltage or one or more rated voltage ranges, marked with rated input or rated current for each rated voltage or range, unless		N/A
	the power input or current are related to the arithmetic mean value of the rated voltage range		N/A
	Relation between marking for upper and lower limits of rated power input or rated current and voltage is clear		N/A
7.6	Correct symbols used		Р
	Symbol for nature of supply placed next to rated voltage		Р
	Symbol for class II appliances placed unlikely to be confused with other marking		N/A
	Units of physical quantities and their symbols according to international standardized system		Р
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
7.8	Except for type Z attachment, terminals for connection indicated as follows:	n to the supply mains	Р
	- marking of terminals exclusively for the neutral conductor (letter N)		N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- marking of protective earthing terminals (symbol IEC 60417-5019)		P
	- marking of functional earthing terminals (symbol IEC 60417-5018)		Р
	- marking not placed on removable parts		Р
7.9	Marking or placing of switches which may cause a hazard		N/A
7.10	Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means:		N/A
	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	ON/OFF	N/A
7.11	Indication for direction of adjustment of controls		N/A
7.12	Instructions for safe use provided		Р
	Details concerning precautions during user maintenance		Р
	The instructions state that:		Р
	- the appliance is not to be used 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		P
	- children being supervised not to play with the appliance		Р
	For a part of class III construction supplied from a detachable power supply unit, the instructions state that the appliance is only to be used with the unit provided		N/A
	Instructions for class III appliances state that it must only be supplied at SELV, unless		N/A
	it is a battery-operated appliance, the battery being charged outside the appliance		N/A
	For appliances for altitudes exceeding 2000 m, the maximum altitude is stated:		N/A
	The instructions for appliances incorporating a functional earth states that the appliance incorporates an earth connection for functional purposes only		N/A

	IEC 60335-1		
Clause	Requirement + Test	Result - Remark	Verdict
7.12.1	Sufficient details for installation supplied		Р
	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
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
	- 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		Р
	Replacement cord instructions, type Z attachment		N/A
7.12.6	Caution in the instructions for appliances incorporating a non-self-resetting thermal cut-out that is reset by disconnection of the supply mains, if this cut-out is required to comply with the standard		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 m	ains:	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	many inlet water manager (Da)		NI/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 appear together before any other instructions supplied with the appliance		Р
	These instructions may be supplied with the appliance separately from any functional use booklet		N/A
	They may follow the description of the appliance that identifies parts, or follow the drawings/sketches		N/A
	In addition, instructions are also available in an alternative format such as on a website or on request from the user in a format such as a DVD		N/A
	In addition, instructions are also available in an alternative format such as on a website or in a format such as a DVD:		Р
7.13	Instructions and other texts in an official language		Р
7.14	Markings clearly legible and durable:		
	Signal words WARNING, CAUTION, DANGER in uppercase having a height as specified:		Р
	Uppercase letter of the text explaining the signal word not smaller than 1,6 mm:		Р
	Moulded in, engraved, or stamped markings either raised above or have a depth below the surface of at least 0,25 mm, unless		Р
	contrasting colours are used		Р
	Markings checked by inspection, measurement and rubbing test as specified		Р
7.15	Markings on a main part		Р
	Marking clearly discernible from the outside, if necessary after removal of a cover		Р
	For portable appliances, cover can be removed or opened without a tool		N/A
	For stationary appliances, name, trademark or identification mark and model or type reference visible after installation		Р

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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		Р
	The symbol IEC 60417-5018 placed next to the symbol IEC 60417-5172 or IEC 60417-5180		Р
7.16	Marking of a possible replaceable thermal link or fuse link clearly visible with regard to replacing the link		N/A
8	PROTECTION AGAINST ACCESS TO LIVE PART	S	Р
8.1	Adequate protection against accidental contact with live parts		Р
8.1.1	Requirement applies for all positions, detachable parts removed		Р
	Lamps behind a detachable cover not removed, if conditions met		N/A
	Insertion or removal of lamps, protection against contact with live parts of the lamp cap		N/A
	Use of test probe B of IEC 61032, with a force not exceeding 1 N: no contact with live parts		Р
	Use of test probe B of IEC 61032 through openings, with a force of 20N: no contact with live parts		Р
8.1.2	Use of test probe 13 of IEC 61032, with a force not exceeding 1 N, through openings in class 0 appliances and class II appliances/constructions: no contact with live parts		Р
	Test probe 13 also applied through openings in earthed metal enclosures having a non-conductive coating: no contact with live parts		Р
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	Accessible part not considered live if:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict	
	- safety extra-low a.c. voltage: peak value not exceeding 42.4 V		N/A	
	- safety extra-low d.c. voltage: not exceeding 42.4 V		N/A	
	- or separated from live parts by protective impedance		N/A	
	If protective impedance: d.c. current not exceeding 2 mA, and		N/A	
	a.c. peak value not exceeding 0.7 mA		N/A	
	- for peak values over 42.4 V up to and including 450 V, capacitance not exceeding 0,1 μF		N/A	
	- for peak values over 450 V up to and including 15 kV, discharge not exceeding 45 μC		N/A	
	- for peak values over 15kV, the energy in the discharge not exceeding 350 mJ		N/A	
8.1.5	Live parts protected at least by basic insulation befo	re installation or assembly:	N/A	
	- built-in appliances		N/A	
	- fixed appliances		N/A	
	- appliances delivered in separate units		N/A	
8.2	Class II appliances and constructions constructed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only		N/A	
	Only possible to touch parts separated from live parts by double or reinforced insulation		N/A	
9	STARTING OF MOTOR-OPERATED APPLIANCES	S	Р	
	Requirements and tests are specified in part 2 when necessary		N/A	
10	POWER INPUT AND CURRENT		Р	
10.1	Power input at normal operating temperature, rated voltage and normal operation not deviating from rated power input by more than shown in table 1:	(see appended table)	Р	
	If the power input varies throughout the operating cycle and the maximum value of the power input exceeds, by a factor greater than two, the arithmetic mean value of the power input occurring during a representative period, the power input is the maximum value that is exceeded for more than 10 % of the representative period		N/A	

	IEC 60335-1		
Clause	Requirement + Test	Result - Remark	Verdict
	Otherwise the power input is the arithmetic mean value		Р
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		Р
	the rated power input is related to the arithmetic mean value		N/A
10.2	Current at normal operating temperature, rated voltage and normal operation not deviating from rated current by more than shown in table 2:	(see appended table)	N/A
	If the current varies throughout the operating cycle and the maximum value of the current exceeds, by a factor greater than two, the arithmetic mean value of the current occurring during a representative period, the current is the maximum value that is exceeded for more than 10 % of the representative period		N/A
	Otherwise the current is the arithmetic mean value		N/A
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		N/A
	the rated current is related to the arithmetic mean value of the range		N/A
11	HEATING		Р
11.1	No excessive temperatures in normal use		Р
11.2	The appliance is held, placed or fixed in position as described:		Р
11.3	Temperature rises, other than of windings, determined by thermocouples		Р
	Temperature rises of windings determined by resistance method, unless		Р
	the windings are non-uniform or it is difficult to make the necessary connections		Р
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):		Р
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	Operation duration corresponding to the most unfavourable conditions of normal use		Р

	IEC 60335-1		
Clause	Requirement + Test	Result - Remark	Verdict
11.8	Temperature rises monitored continuously and not exceeding the values in table 3:	(see appended table)	Р
	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		Р
	Protective devices do not operate, except		Р
	components in protective electronic circuits tested for the number of cycles specified in 24.1.4		N/A
13	LEAKAGE CURRENT AND ELECTRIC STRENGTH TEMPERATURE	H AT OPERATING	Р
13.1	Leakage current not excessive and electric strength adequate		Р
	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):		Р
	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 60990:1999		Р
	For class 0I appliances and class I appliances, except parts of class II construction, C may be replaced by a low impedance ammeter		P
	Leakage current measurements:	(see appended table)	Р
13.3	The appliance is disconnected from the supply		Р
	Electric strength tests according to table 4:	(see appended table)	Р
	No breakdown during the tests		Р
14	TRANSIENT OVERVOLTAGES		N/A
	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
	of functional insulation if the appliance complies with clause 19 with the clearance short-circuited		N/A

	IEC 60335-1		
Clause	Requirement + Test	Result - Remark	Verdict

15	MOISTURE RESISTANCE		Р
15.1	Enclosure provides the degree of moisture protection according to classification of the appliance	IPX0	N/A
	Compliance checked as specified in 15.1.1, taking into account 15.1.2, followed by the electric strength test of 16.3		N/A
	No trace of water on insulation which can result in a reduction of clearances or creepage distances below values specified in clause 29		N/A
15.1.1	Appliances, other than IPX0, subjected to tests as specified in IEC 60529:	IPX0	N/A
	Water valves containing live parts in external hoses for connection of an appliance to the water mains tested as specified for IPX7 appliances		N/A
15.1.2	Hand-held appliance turned continuously through the most unfavourable positions during the test		N/A
	Built-in appliances installed according to the instructions		N/A
	Appliances placed or used on the floor or table placed on a horizontal unperforated support		N/A
	Appliances normally fixed to a wall and appliances with pins for insertion into socket-outlets are mounted on a wooden board		N/A
	For IPX3 appliances, the base of wall mounted appliances is placed at the same level as the pivot axis of the oscillating tube		N/A
	For IPX4 appliances, the horizontal centre line of the appliance is aligned with the pivot axis of the oscillating tube, and		N/A
	for appliances normally used on the floor or table, the movement is limited to two times 90° for a period of 5 min, the support being placed at the level of the pivot axis of the oscillating tube		N/A
	Wall-mounted appliances, take into account the distance to the floor stated in the instructions		N/A
	Appliances normally fixed to a ceiling are mounted underneath a horizontal unperforated support, the pivot axis of the oscillating tube located at the level of the underside of the support, and		N/A
	for IPX4 appliances, the movement of the tube is limited to two times 90° from the vertical for a period of 5 min		N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Appliances with type X attachment fitted with a flexible cord as described		N/A
	Detachable parts subjected to the relevant treatment with the main part		N/A
	However, if a part has to be removed for user maintenance and a tool is needed, this part is not removed		N/A
15.2	Spillage of liquid does not affect the electrical insulation		N/A
	Spillage solution comprising water containing approximately 1 % NaCl and 0,6 % rinsing agent		N/A
	Appliances with type X attachment fitted with a flexible cord as described		N/A
	Appliances incorporating an appliance inlet tested with or without an connector, whichever is most unfavourable		N/A
	Detachable parts are removed		N/A
	Overfilling test with additional amount of the solution, over a period of 1 min (I):		N/A
	The appliance withstands the electric strength test of 16.3		N/A
	No trace of water on insulation that can result in a reduction of clearances or creepage distances below values specified in clause 29		N/A
15.3	Appliances proof against humid conditions		Р
	Checked by test Cab: Damp heat steady state in IEC 60068-2-78		Р
	Detachable parts removed and subjected, if necessary, to the humidity test with the main part		Р
	Humidity test for 48 h in a humidity cabinet	25 ℃, 93 %	Р
	Reassembly of those parts that may have been removed		Р
	The appliance withstands the tests of clause 16		Р
16	LEAKAGE CURRENT AND ELECTRIC STRENGT	Н	Р
16.1	Leakage current not excessive and electric strength adequate		Р
	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		Р

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
16.2	Single-phase appliances: test voltage 1.06 times rated voltage (V)		Р
	Three-phase appliances: test voltage 1.06 times rated voltage divided by $\sqrt{3}$ (V):		N/A
	Leakage current measurements:	(see appended table)	Р
	Limit values doubled if:		N/A
	- all controls have an off position in all poles, or		N/A
	- the appliance has no control other than a thermal cut-out, or		N/A
	- all thermostats, temperature limiters and energy regulators do not have an off position, or		N/A
	- the appliance has radio interference filters		N/A
	With the radio interference filters disconnected, the leakage current do not exceed limits specified:	(see appended table)	N/A
16.3	Electric strength tests according to table 7:	(see appended table)	Р
	Test voltage applied between the supply cord and inlet bushing and cord guard and cord anchorage as specified	(see appended table)	Р
	No breakdown during the tests		Р
17	OVERLOAD PROTECTION OF TRANSFORMERS CIRCUITS	AND ASSOCIATED	Р
	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 sub-clause 15.5 of IEC 61558-1		N/A
18	ENDURANCE		Р
	Requirements and tests are specified in part 2 when necessary	Refer to EN 50580	Р

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Clause	Requirement + Test	Result - Remark	Verdict

19	ABNORMAL OPERATION		Р
19.1	The risk of fire, mechanical damage or electric shock under abnormal or careless operation obviated		Р
	Electronic circuits so designed and applied that a fault will not render the appliance unsafe:	(see appended table)	Р
	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 limit 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	(see appended tables)	Р
	Appliances incorporating electronic circuits subjected to the tests of 19.11 and 19.12, as applicable		Р
	Appliances incorporating contactors or relays subjected to the test of 19.14, being carried out before the tests of 19.11		N/A
	Appliances incorporating voltage selector switches subjected to the test of 19.15		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		Р
	If a heating element or intentionally weak part becomes open-circuited, the relevant test is repeated on a second sample		N/A
19.2	Test of appliances with heating elements with restricted heat dissipation; test voltage (V), power input of 0.85 times rated power input (W)::		N/A
19.3	Test of 19.2 repeated; test voltage (V), power input of 1.24 times rated power input (W):		N/A
19.4	Test conditions as in clause 11, any control limiting the temperature during tests of clause 11 short-circuited		N/A
19.5	Test of 19.4 repeated on 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

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Clause	Requirement + Test	Result - Remark	Verdict
	The test repeated with reversed polarity and the other end of the heating element connected to the sheath		N/A
	The test is not carried out on appliances intended to be permanently connected to fixed wiring and on appliances where an all-pole disconnection occurs during the test of 19.4		N/A
19.6	Appliances with PTC heating elements tested at rated voltage, establishing steady conditions		N/A
	The working voltage of the PTC heating element is increased by 5% and the appliance is operated until steady conditions are re-established. The voltage is then increased in similar steps until 1.5 times working voltage or until the PTC heating element ruptures (V)		N/A
19.7	Stalling test by locking the rotor if the locked rotor torque is smaller than the full load torque, or		N/A
	locking moving parts of other appliances		Р
	Locked rotor, capacitors open-circuited one at a time		N/A
	Test repeated with capacitors short-circuited one at a time, unless		N/A
	the capacitor is of class S2 or S3 of IEC 60252-1		N/A
	Appliances with timer or programmer supplied with rated voltage for each of the tests, for a period equal to the maximum period allowed:		N/A
	An electronic timer or programmer that operates to ensure compliance with the test before the maximum period under the conditions of Clause 11 is reached, is a protective electronic circuit		N/A
	Other appliances supplied with rated voltage for a period as specified:	30s	Р
	Winding temperatures not exceeding values specified in table 8:	(see appended table)	Р
19.8	Multi-phase motors operated at rated voltage with one phase disconnected		N/A
19.9	Running overload test on appliances incorporating motors intended to be remotely or automatically controlled or liable to be operated continuously		N/A
	Motor-operated and combined appliances for which 30.2.3 is applicable and that use overload protective devices relying on electronic circuits to protect the motor windings, are also subjected to the test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict	
	Winding temperatures not exceeding values as specified:	(see appended table)	N/A	
19.10	Series motor operated at 1.3 times rated voltage for 1 min (V):	156 V 312 V	Р	
	During the test, parts not being ejected from the appliance		Р	
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		Р	
	they comply with the conditions specified in 19.11.1		N/A	
	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	
	Appliances having a device with an off position obtained by electronic disconnection, or a device placing the appliance in a stand-by mode, subjected to the tests of 19.11.4		N/A	
	If the safety of the appliance under any of the fault conditions depends on the operation of a miniature fuse-link complying with IEC 60127, the test of 19.12 is carried out		N/A	
	During and after each test the following is checked:		Р	
	- the temperature of the windings do not exceed the values specified in table 8		Р	
	- the appliance complies with the conditions specified in 19.13		Р	
	- 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-circu considered to have withstood the particular test, proviously conditions are met:		N/A	
	- the base material of the printed circuit board withstands the test of 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 meeting both of the following conditions:	circuits or parts of circuits	N/A	

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Clause	Requirement + Test Resu	It - Remark Verdict	
	the electronic circuit is a low newer circuit that is	NI/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 	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 opera specified in clause 11, but supplied at rated voltage, duratic specified:		
	a) short circuit of functional insulation if clearances or creepage distances are less than the values specified in clause 29	N/A	
	b) open circuit at the terminals of any component	Р	
	c) short circuit of capacitors, unless	N/A	
	they comply with IEC 60384-14	Р	
	d) short circuit of any two terminals of an electronic component, other than integrated circuits	Р	
	This fault condition is not applied between the two circuits of an optocoupler	N/A	
	e) failure of triacs in the diode mode	N/A	
	f) failure of microprocessors and integrated circuits	N/A	
	g) failure of an electronic power switching device	N/A	
	Each low power circuit is short-circuited by connecting the low-power point to the pole of the supply source from which the measurements were made	N/A	
19.11.3	If the appliance incorporates a protective electronic circuit 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 standby mode	N/A	
	Appliances incorporating a protective electronic circuit subjected to the tests of 19.11.4.1 to 19.11.4.7, the tests being carried out after the protective electronic circuit has operated, except that	N/A	

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Clause	Requirement + Test	Result - Remark	Verdict
	appliances operated for 30 s or 5 min during the test of 19.7 are not subjected to the tests for electromagnetic phenomena.		N/A
	Surge protective devices disconnected, unless		N/A
	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
19.11.4.2	The appliance is subjected to radiated fields in accordance with IEC 61000-4-3, at frequency ranges 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, test level 3 or 4 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		N/A
	Earthed heating elements in class I appliances disconnected		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		N/A
	Appliances having a rated current exceeding 16 A are subjected to the Class 3 voltage dips and interruptions in accordance with IEC 61000-4-34		N/A
19.11.4.7	The appliance is subjected to mains signals in accordance with IEC 61000-4-13, test level class 2		N/A
19.11.4.8	The appliance is supplied at rated voltage and operated under normal operation. After 60s the power supply is reduced to a level such that the appliance ceases to respond or parts controlled by the programmable component cease to operate		N/A
	The appliance continues to operate normally, or		N/A
	requires a manual operation to restart		N/A

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Clause	Requirement + Test	Result - Remark	Verdict	
19.12	If the safety of the appliance for any of the fault conditions specified in 19.11.2 depends on the operation of a miniature fuse-link complying with IEC 60127, the test is repeated, measuring the current flowing through the fuse-link; measured current (A); rated current of the fuse-link (A):		N/A	
19.13	During the tests the appliance does not emit flames, molten metal, poisonous or ignitable gas in hazardous amounts		Р	
	Temperature rises not exceeding the values shown in table 9:	(see appended table)	Р	
	Compliance with clause 8 not impaired		Р	
	If the appliance can still be operated it complies with 20.2		N/A	
	Insulation, other than of class III appliances or class contain live parts, withstands the electric strength tesspecified in table 4:		Р	
	- basic insulation (V):	1000 V	Р	
	- supplementary insulation (V):	1750 V	N/A	
	- reinforced insulation (V):	3000 V	Р	
	After operation or interruption of a control, clearances and creepage distances across the functional insulation withstand the electric strength test of 16.3, the test voltage being twice the working voltage		N/A	
	The appliance does not undergo a dangerous malfunction, and		N/A	
	no failure of protective electronic circuits, if the appliance is still operable		N/A	
	Appliances tested with an electronic switch in the off mode:	position, or in the stand-by	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 control one of the interlocks may be released provided that:	illed by one or more interlocks,	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	

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Clause	Requirement + Test	Result - Remark	Verdict
19.14	Appliances operated under the conditions of clause 11, any contactor or relay contact operating under the conditions of clause 11 being short-circuited		N/A
	For a relay or contactor with more than one contact, all contacts are short-circuited at the same time		N/A
	A relay or contactor operating only to ensure the appliance is energized for normal use is not short-circuited		N/A
	If more than one relay or contactor operates in clause 11, they are short-circuited in turn		N/A
19.15	For appliances with a mains voltage selector switch, the switch is set to the lowest rated voltage position and the highest value of rated voltage is applied		N/A
20	STABILITY AND MECHANICAL HAZARDS		Р
20.1	Appliances having adequate stability		Р
	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		Р
	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
20.2	Moving parts adequately arranged or enclosed as to provide protection against personal injury		Р
	Protective enclosures, guards and similar parts are non-detachable, and		Р
	have adequate mechanical strength		Р
	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 probe described		Р
21	MECHANICAL STRENGTH		Р
21.1	Appliance has adequate mechanical strength and is constructed as to withstand rough handling		Р

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Clause	Requirement + Test	Result - Remark	Verdict	
	Checked by applying 3 blows to every point of the enclosure like to be weak, in accordance with test Ehb of IEC 60068-2-75, spring hammer test, with an impact energy of 0,5 J	(see appended table)	Р	
	The appliance shows no damage impairing compliance with this standard, and		Р	
	compliance with 8.1, 15.1 and clause 29 not impaired		Р	
	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		Р	
	Test not applicable if the thickness of supplementary insulation is at least 1 mm and reinforced insulation at least 2 mm		Р	
	The insulation is tested as specified, and does withstand the electric strength test of 16.3		N/A	
22	CONSTRUCTION		Р	
22.1	Appliance marked with the first numeral of the IP system, relevant requirements of IEC 60529 are fulfilled	IPX0	N/A	
22.2	Stationary appliance: means to ensure all-pole disconnection from the supply being provided:		Р	
	- a supply cord fitted with a plug, or		Р	
	- a switch complying with 24.3, or		N/A	
	- a statement in the instruction sheet that a disconnection incorporated in the fixed wiring is to be provided, or		N/A	
	- an appliance inlet		N/A	
	Singe-pole switches and single-pole protective devices for the disconnection of heating elements in single-phase, permanently connected class 01 and class I appliances, connected to the phase conductor		N/A	
22.3	Appliance provided with pins: no undue strain on socket-outlets		N/A	
	Applied torque not exceeding 0.25 Nm		N/A	

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Clause	Requirement + Test	Result - Remark	Verdict		
	Pull force of 50N to each pin after the appliance has being placed in the heating cabinet; when cooled to room temperature the pins are not displaced by more than 1mm		N/A		
	Each pin subjected to a torque of 0.4Nm; the pins are not rotating, unless		N/A		
	rotating does not impair compliance with this standard		N/A		
22.4	Appliance for heating liquids and appliance causing undue vibration not provided with pins for insertion into socket-outlets		N/A		
22.5	No risk of electric shock when touching pins, for appliances having a capacitor with rated capacitance equal to or greater than $0.1\mu F$, the appliance being disconnected from the supply at the instant of voltage peak		Р		
	Voltage not exceeding 34 V (V):	0,72 V	Р		
	If compliance relies on the operation of an electronic circuit, the electromagnetic phenomena tests of 19.11.4.3 and 19.11.4.4 are applied		N/A		
	The discharge test is then repeated three times, voltage not exceeding 34 V (V):		N/A		
22.6	Electrical insulation not affected by condensing water or leaking liquid		Р		
	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		
22.7	Adequate safeguards against the risk of excessive pressure in appliances containing liquid or gases or having steam-producing devices		Р		
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		P		
22.9	Insulation, internal wiring, windings, commutators and slip rings not exposed to oil, grease or similar substances, unless	No such substances used	Р		
	the substance has adequate insulating properties		N/A		
22.10	Not possible to reset voltage-maintained non-self-resetting thermal cut-outs by the operation of an automatic switching device incorporated within the appliance, if:		N/A		

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Clause	Requirement + Test	Result - Remark	Verdict
	- a non-self-resetting thermal cut-out is required by the standard, and		N/A
	- a voltage maintained non-self-resetting thermal cut-out is used to meet it		N/A
	Non-self-resetting thermal motor protectors have a trip-free action, unless		N/A
	they are voltage maintained		N/A
	Reset buttons of non-self-resetting controls so located or protected that accidental resetting is unlikely		N/A
22.11	Reliable fixing of non-detachable parts that provide the necessary degree of protection against electric shock, moisture or contact with moving parts		Р
	Obvious locked position of snap-in devices used for fixing such parts		N/A
	No deterioration of the fixing properties of snap-in devices used in parts that are likely to be removed during installation or servicing		N/A
	Tests as described		Р
22.12	Handles, knobs etc. fixed in a reliable manner, if loosening result in a hazard		Р
	Removing or fixing in wrong position of handles, knobs etc. indicating position of switches or similar components not possible, if resulting in a hazard		Р
	A choking hazard does not apply to appliances for commercial use		Р
	Axial force 15 N applied to parts, the shape being so that an axial pull is unlikely to be applied		Р
	Axial force 30 N applied to parts, the shape being so that an axial pull is likely to be applied		N/A
	If the part is removed and can be contained within the small parts cylinder, it is considered to be a choking hazard		N/A
22.13	Unlikely that handles, when gripped as in normal use, make the operator's hand touch parts having a temperature rise exceeding the value specified for handles which are held for short periods only		N/A
22.14	No ragged or sharp edges creating a hazard for the user in normal use, or during user maintenance		Р
	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		Р

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Clause	Requirement + Test	Result - Remark	Verdict	
22.15	Storage hooks and the like for flexible cords smooth and well rounded		Р	
22.16	Automatic cord reels cause no undue abrasion or damage to the sheath of the flexible cord, no breakage of conductors strands and no undue wear of contacts		N/A	
	Cord reel tested with 6000 operations, as specified		N/A	
	Electric strength test of 16.3, voltage of 1000 V applied		N/A	
22.17	Spacers not removable from the outside by hand or by means of a screwdriver or a spanner		N/A	
22.18	Current-carrying parts and other metal parts resistant to corrosion		Р	
22.19	Driving belts not relied upon to provide the required level of insulation, unless		N/A	
	constructed to prevent inappropriate replacement		N/A	
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		N/A	
22.21	Wood, cotton, silk, ordinary paper and fibrous or hygroscopic material not used as insulation, unless	No such material	N/A	
	impregnated		N/A	
	This requirement does not apply to magnesium oxide and mineral ceramic fibres used for the electrical insulation of heating elements		N/A	
22.22	Appliances not containing asbestos	No asbestos	Р	
22.23	Oils containing polychlorinated biphenyl (PCB) not used	No oils	Р	
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 in contact with accessible metal parts		N/A	
22.25	Sagging heating conductors, except in class III appliances or class III constructions that do not contain live parts, cannot come into contact with accessible metal parts		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	

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Clause	Requirement + Test	Result - Remark	Verdict	
22.27	Parts connected by protective impedance separated by double or reinforced insulation		N/A	
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 so constructed 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 without being seriously damaged, or		Р	
	so constructed that they cannot be replaced in an incorrect position, and so that if they are omitted, the appliance is rendered inoperable or manifestly incomplete		Р	
22.31	Neither clearances nor creepage distances over supplementary and reinforced insulation reduced below values specified in clause 29 as a result of wear		Р	
	Neither clearances nor creepage distances between live parts and accessible parts reduced below values for supplementary insulation if wires, screws etc. become loose		Р	
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		Р	
	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		N/A	
	Ceramic material not tightly sintered, similar materials or beads alone not used as supplementary or reinforced insulation		N/A	
	Ceramic and similar porous material in which heating conductors are embedded is considered to be basic insulation, not reinforced insulation		N/A	
	Oxygen bomb test at 70 °C for 96 h and 16 h at room temperature		N/A	
22.33	Conductive liquids that are or may become accessible in normal use and conductive liquids that are in contact with unearthed accessible metal parts are not in direct contact with live parts, or		N/A	

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Clause	Requirement + Test	Result - Remark	Verdict
	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, not in direct contact with basic or reinforced insulation, unless		N/A
	the reinforced insulation consists of at least 3 layers		N/A
	For class II constructions, conductive liquids which are in contact with live parts, not in direct contact with reinforced insulation, unless		N/A
	the reinforced insulation consists of at least 3 layers		N/A
	An air layer not used as basic or supplementary insulation in a double insulation system if likely to be bridged by leaking liquid		N/A
22.34	Shafts of operating knobs, handles, levers etc. not live, unless		Р
	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		Р
	Insulating material covering metal handles, levers and knobs withstand the electric strength test of 16.3 for supplementary insulation		N/A
22.36	For appliances other than class III, handles continuously held in the hand in normal use so constructed that when gripped as in normal use, the operators hand is not likely to touch metal parts, unless		N/A

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Clause	Requirement + Test	Result - Remark	Verdict	
	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	Lamp holders used only for the connection of lamps		N/A	
22.40	Motor-operated appliances and combined appliances intended to be moved while in operation, or having accessible moving parts, fitted with a switch to control the motor. The actuating member of the switch being easily visible and accessible		Р	
	If the appliance cannot operate continuously, automatically or remotely without giving rise to a hazard, appliances for remote operation being fitted with a switch for stopping the operation. The actuating member of the switch being easily visible and accessible		N/A	
22.41	No components, other than lamps, containing mercury		Р	
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 14.1 a) in IEC 60065		N/A	
	Capacitors checked by the tests for class Y capacitors in IEC 60384-14		N/A	
22.43	Appliances adjustable for different voltages, accidental changing of the setting of the voltage unlikely to occur		N/A	
22.44	Appliances not having an enclosure that is shaped or decorated like a toy		Р	
22.45	When air is used as reinforced insulation, clearances not reduced below the values specified in 29.1.3 due to deformation as a result of an external force applied to the enclosure		Р	

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Clause	Requirement + Test	Result - Remark	Verdict
22.46	For programmable protective electronic circuits used to ensure compliance with the standard, the software contains measures to control the fault/error conditions in table R.1		N/A
	Software that contains measures to control the fault/error conditions specified in table R.2 is to be specified in parts 2 for particular constructions or to address specific hazards		N/A
	These requirements are not applicable to software used for functional purpose or compliance with clause 11		N/A
22.47	Appliances connected to the water mains withstand the water pressure expected in normal use		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 backsiphonage of non-potable water		N/A
22.49	For remote operation, the duration of operation is to be set before the appliance can be started, unless		N/A
	the appliance switches off automatically or can operate continuously without hazard		N/A
22.50	Controls incorporated in the appliance take priority over controls actuated by remote operation		N/A
22.51	There is a control on the appliance manually adjusted to the setting for remote operation before the appliance can be operated in this mode		N/A
	There is a visual indication showing that the appliance is adjusted for remote operation		N/A
	These requirements not necessary on appliances that without giving rise to a hazard:	t can operate as follows,	N/A
	- continuously, or		N/A
	- automatically, or		N/A
	- remotely		N/A
22.52	Socket-outlets on appliances accessible to the user in accordance with the socket-outlet system used in the country in which the appliance is sold		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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict	
	the cover of their compartment can only be opened after at least two independent movements have been applied simultaneously		N/A	
22.55	Devices operated to stop the intended function of the appliance, if any, are be distinguished from other manual devices by means of shape, size, surface texture or position:		N/A	
	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:	N/A	
	 tactile feedback from the actuator or from the appliance, or 		N/A	
	- 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 Annex T		N/A	
	This requirement does not apply to glass, ceramics or similar materials		N/A	
23	INTERNAL WIRING		Р	
23.1	Wireways smooth and free from sharp edges		Р	
	Wires protected against contact with burrs, cooling fins etc.		Р	
	Wire holes in metal well-rounded or provided with bushings		N/A	
	Wiring effectively prevented from coming into contact with moving parts		Р	
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		N/A	
	Flexible metallic tubes not causing damage to insulation of conductors		N/A	
	Open-coil springs not used		N/A	
	Adequate insulating lining provided inside a coiled spring, the turns of which touch one another		N/A	

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Clause	Requirement + Test	Result - Remark	Verdict	
	No damage after 10 000 flexings for conductors flexed during normal use, or		N/A	
	100 flexings for conductors flexed during user maintenance		N/A	
	Electric strength test of 16.3, 1000 V between live parts and accessible metal parts		N/A	
	Not more than 10% of the strands of any conductor broken, and		N/A	
	not more than 30% for wiring supplying circuits that consume no more than 15W		N/A	
23.4	Bare internal wiring sufficiently rigid and fixed		N/A	
23.5	The insulation of internal wiring subjected to the supply mains voltage withstanding the electrical stress likely to occur in normal use		Р	
	Basic insulation electrically equivalent to the basic insulation of cords complying with IEC 60227 or IEC 60245, or		Р	
	no breakdown when a voltage of 2000 V is applied for 15 min between the conductor and metal foil wrapped around the insulation		Р	
	For class II construction, the requirements for supplementary insulation and reinforced insulation apply,		N/A	
	except that the sheath of a cord complying with IEC 60227 or IEC 60245 may provide supplementary insulation.		N/A	
	A single layer of internal wiring insulation does not provide reinforced insulation		Р	
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		Р	
23.8	Aluminium wires not used for internal wiring		Р	
23.9	Stranded conductors not consolidated by soldering where they are subjected to contact pressure, unless		N/A	
	the contact pressure is provided by spring terminals		N/A	

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Clause	Requirement + Test	Result - Remark	Verdict	
23.10	The insulation and sheath of internal wiring, incorporated in external hoses for the connection of an appliance to the water mains, at least equivalent to that of light polyvinyl chloride sheathed flexible cord (60227 IEC 52)		N/A	
24	COMPONENTS		Р	
24.1	Components comply with safety requirements in relevant IEC standards		Р	
	List of components:	(see appended table)	Р	
	Motors not required to comply with IEC 60034-1, they are tested as part of the appliance		Р	
	Relays tested as part of the appliance, or		N/A	
	alternatively acc. to IEC 60730-1, and meeting the additional requirements in IEC 60335-1		N/A	
	The requirements of Clause 29 apply between live parts of components and accessible parts of the appliance		Р	
	Components can comply with the requirements for clearances and creepage distances for functional insulation in the relevant component standard		Р	
	30.2 of this standard apply to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections		Р	
	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		Р	
	Components that have been previously tested to comply with the resistance to fire requirements in the IEC standard for the relevant component need not be retested provided the specified conditions are met		Р	
	If these conditions are not satisfied, the component is tested as part of the appliance.		Р	
	Power electronic converter circuits not required to comply with IEC 62477-1, they are tested as part of the appliance		Р	
	If components have not been tested and found to comply with relevant IEC standard for the number of cycles specified, they are tested in accordance with 24.1.1 to 24.1.9		N/A	

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Clause	Requirement + Test		Result - Remark	Verdict
	For components mentioned in 24.1.1 to 24.1 additional tests specified in the relevant comstandard are necessary other than those specific 24.1.1 to 24.1.9	ponent		N/A
	Components not tested and found to comply relevant IEC standard and components not r or not used in accordance with its marking, t under the conditions occurring in the applian	marked ested		Р
	Lampholders and starterholders that have not tested and found to comply with the relevant standard, tested as a part of the appliance a additionally according to the gauging and interchangeability requirements of the relevant standard	i IEC nd		N/A
	No additional tests specified for nationally standardized plugs such as those detailed in IEC/TR 60083 or connectors complying with standard sheets of IEC 60320-1 and IEC 603	the		Р
24.1.1	Capacitors likely to be permanently subjected supply voltage and used for radio interference suppression or for voltage dividing, comply voltage 4.14	ce		Р
	If the capacitors have to be tested, they are according to Annex F	tested		N/A
24.1.2	Transformers in associated switch mode pov supplies comply with Annex BB of IEC 6155			N/A
	Safety isolating transformers comply with IE 61558-2-6	С		N/A
	If they have to be tested, they are tested acc to Annex G	cording		N/A
24.1.3	Switches comply with IEC 61058-1, the num cycles of operation being at least 10 000	ber of		Р
	If they have to be tested, they are tested acc to Annex H	cording		N/A
	If the switch operates a relay or contactor, the complete switching system is subjected to the			N/A
	If the switch only operates a motor staring recomplying with IEC 60730-2-10 with the nuncycles of a least 10 000 as specified, the conswitching system need not be tested	nber of		N/A
24.1.4	Automatic controls comply with IEC 60730-1 cycles of operation being at least:	with the	relevant part 2. The number of	N/A
	- thermostats:	10 000		N/A
	- temperature limiters:	1 000		N/A

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Clause	Requirement + Test		Result - Remark	Verdict
	- 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 clause 11 need not be declared, if the applia meets the requirements of this standard who are short-circuited	ance		N/A
	Thermal motor protectors are tested in combuith their motor under the conditions specific Annex D			N/A
	For water valves containing live parts and the incorporated in external hoses for connection appliance to the water mains, the degree of protection declared for subclause 6.5.2 of IE 60730-2-8 is IPX7	n of an		N/A
	Thermal cut-outs of the capillary type complethe requirements for type 2.K controls in IEC 60730-2-9			N/A
24.1.5	Appliance couplers comply with IEC 60320-	1		N/A
	However, for class II appliances classified h than IPX0, the appliance couplers comply w 60320-2-3			N/A
	Interconnection couplers comply with IEC 60	0320-2-		N/A
24.1.6	Small lamp holders similar to E10 lamphold comply with IEC 60238, the requirements for lampholders being applicable			N/A
24.1.7	For remote operation of the appliance via a telecommunication network, the relevant state for the telecommunication interface circuitry appliance is IEC 62151			N/A
24.1.8	The relevant standard for thermal links is IE 60691	С		N/A
	Thermal links not complying with IEC 60691 considered to be an intentionally weak part purposes of Clause 19			N/A
24.1.9	Contactors and relays, other than motor sta relays, tested as part of the appliance	rting		N/A

IEC 60335-1				
Clause	Requirement + Test	Result - Remark	Verdict	
	They are also tested in accordance with Clause 17 of IEC 60730-1, the number of cycles of operations in 24.1.4 selected according to the contactor or relay function in the appliance:		N/A	
24.2	Appliances not fitted with:		Р	
	- switches, automatic controls or power supplies in flexible cords		Р	
	- devices causing the protective device in the fixed wiring to operate in the event of a fault in the appliance		Р	
	- thermal cut-outs that can be reset by soldering, unless		N/A	
	the solder has a melding point of at least 230 °C		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 and appliance inlets complying with the standard sheets of IEC 60320-1		N/A	
24.5	Capacitors in auxiliary windings of motors marked with their rated voltage and capacitance, and used accordingly		N/A	
	Voltage across capacitors in series with a motor winding does not exceed 1,1 times rated voltage, when the appliance is supplied at 1,1 times rated voltage under minimum load		N/A	
24.6	Working voltage of motors connected to the supply mains and having basic insulation that is inadequate for the rated voltage of the appliance, not exceeding 42 V		N/A	
	In addition, the motors comply with the requirements of Annex I		N/A	
24.7	Detachable hose-sets for connection of appliances to the water mains comply with IEC 61770		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	

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Clause	Requirement + Test Result - Remark	Verdict		
24.8	Motor running capacitors in appliances for which 30.2.3 is applicable and that are permanently connected in series with a motor winding, not causing a hazard in event of a failure	N/A		
	One or more of the following conditions are to be met:	N/A		
	- the capacitors are of class S2 or S3 according to IEC 60252-1	N/A		
	- the capacitors are housed within a metallic or ceramic enclosure	N/A		
	- the distance of separation of the outer surface to adjacent non-metallic parts exceeds 50 mm	N/A		
	- adjacent non-metallic parts within 50 mm withstand the needle-flame test of Annex E	N/A		
	- adjacent non-metallic parts within 50 mm classified as at least V-1 according to IEC 60695- 11-10	N/A		
25	SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CORDS			
25.1	Appliance not intended for permanent connection to fixed wiring, means for connection to the supply:	Р		
	- 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	Р		
	- 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	N/A		
25.2	Appliance not provided with more than one means of connection to the supply mains	Р		
	Stationary appliance for multiple supply may be provided with more than one means of connection, provided electric strength test of 1250 V for 1 min between each means of connection causes no breakdown	N/A		
25.3	Appliance intended to be permanently connected to fixed wiring provided with on of the following means for connection to the supply mains:	e N/A		
	- a set of terminals allowing the connection of a flexible cord	N/A		
	- a fitted supply cord	N/A		
	- a set of supply leads accommodated in a suitable compartment	N/A		

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Clause	Requirement + Test Result - Remark	Verdict		
	- 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		
	For a fixed appliance constructed so that parts can be removed to facilitate easy installation, this requirement is met if it is possible to connect the fixed wiring without difficulty after a part of the appliance has been fixed to its support	N/A		
25.4	Cable and conduit entries, rated current of appliance not exceeding 16 A, dimension according to table 10 (mm):	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:	Р		
	- type X attachment	N/A		
	- type Y attachment	Р		
	- type Z attachment, if allowed in relevant part 2	N/A		
	Type X attachment, other than those with a specially prepared cord, not used for flat twin tinsel cords	N/A		
	For multi-phase appliances supplied with a supply cord and that are intended to be permanently connected to fixed wiring, the supply cord is assembled to the appliance by type Y attachment	N/A		
25.6	Plugs fitted with only one flexible cord	Р		
25.7	Supply cords, other than for class III appliances, being one of the following types:	Р		
	- rubber sheathed (at least 60245 IEC 53)	N/A		
	- polychloroprene sheathed (at least 60245 IEC 57) H07RN	Р		
	- polyvinyl chloride sheathed. Not used if they are likely to touch metal parts having a temperature rise exceeding 75 K during the test of clause 11	N/A		
	light polyvinyl chloride sheathed cord (60227 IEC 52), for appliances not exceeding 3 kg	N/A		

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Clause	Requirement + Test	Result - Remark	Verdict	
	ordinary polyvinyl chloride sheathed cord (60227 IEC 53), for other appliances		N/A	
	- heat resistant polyvinyl chloride sheathed. Not used than specially prepared cords	d for type X attachment other	N/A	
	heat-resistant light polyvinyl chloride sheathed 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 a	nd 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 and (62821 IEC 102f(for flat cable)		N/A	
	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)	For 110-120 V: 1,0 mm ² ; 6,0 A For 220-240 V: 1,0 mm ² ; 4,4 A	Р	
25.9	Supply cords not in contact with sharp points or edges		Р	
25.10	Supply cord of class I appliances have a green/yellow core for earthing		Р	
	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 alpha numeric 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		Р	

IEC 60335-1				
Clause	Requirement + Test	Result - Remark	Verdict	
25.12	Insulation of the supply cord not damaged when moulding the cord to part of the enclosure		N/A	
25.13	Inlet openings so constructed as to prevent damage to the supply cord		Р	
	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	
	class 0, or		N/A	
	a class III appliance not containing live parts		N/A	
25.14	Supply cords moved while in operation adequately protected against excessive flexing		N/A	
	Flexing test, as described:		N/A	
	- applied force (N):		N/A	
	- number of flexings:		N/A	
	The test does not result in:		N/A	
	- short-circuit between the conductors, such that the current exceeds a value of twice the rated current		N/A	
	- breakage of more than 10% of the strands of any conductor		N/A	
	- separation of the conductor from its terminal		N/A	
	- loosening of any cord guard		N/A	
	- damage to the cord or the cord guard		N/A	
	- broken strands piercing the insulation and becoming accessible		N/A	
25.15	For appliances with supply cord and appliances to be permanently connected to fixed wiring by a flexible cord, conductors of the supply cord relieved from strain, twisting and abrasion by use of cord anchorage		Р	
	The cord cannot be pushed into the appliance to such an extent that the cord or internal parts of the appliance can be damaged		Р	
	Pull and torque test of supply cord:		Р	
	- fixed appliances: pull 100 N; torque (not on automatic cord reel) (Nm):		N/A	

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Clause	Requirement + Test	Result - Remark	Verdict	
	- other appliances: values shown in table 12: mass (kg); pull (N); torque (not on automatic cord reel) (Nm):	100 N; 0,35 Nm	Р	
	Cord not damaged and max. 2 mm displacement of the cord		Р	
25.16	Cord anchorages for type X attachments constructed	d 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	
	- 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	
	- 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, 0l 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	
	After the test of 25.15, under the conditions specified, the conductors have not moved by more than 1 mm in the terminals		N/A	
25.17	Adequate cord anchorages for type Y and Z attachment, test with the cord supplied with the appliance		Р	

IEC 60335-1				
Clause	Requirement + Test Result - Remark	Verdict		
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	Р		
25.19	Type X attachment, glands not used as cord anchorage in portable appliances	N/A		
	Tying the cord into a knot or tying the cord with string not used	N/A		
25.20	The conductors of the supply cord for type Y and Z attachment insulated from accessible metal parts	Р		
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		
	2 N test to the conductor for portable appliances; no contact with accessible metal parts	N/A		
25.22	Appliance inlets:			
	- 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 supply cord is unlikely to touch such metal parts	N/A		
25.23	Interconnection cords comply with the requirements for the supply cord, except that:	Р		
	- the cross-sectional area of the conductors is determined on the basis of the maximum current during clause 11	Р		
	- the thickness of the insulation may be reduced	N/A		

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Clause	Requirement + Test	Result - Remark	Verdict	
	- 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		P	
	If necessary, electric strength test of 16.3		Р	
25.24	Interconnection cords not detachable without the aid of a tool if compliance with this standard is impaired when they are disconnected		Р	
25.25	Dimensions of pins that are inserted into socket- outlets compatible with the dimensions of the relevant socket-outlet.		N/A	
	Dimensions of pins and engagement face in accordance with the dimensions of the relevant plug in IEC/TR 60083		N/A	
26	TERMINALS FOR EXTERNAL CONDUCTORS		Р	
26.1	Appliances provided with terminals or equally effective devices for connection of external conductors		Р	
	Terminals only accessible after removal of a non- detachable cover, except		Р	
	for class III appliances that do not contain live parts		N/A	
	Earthing terminals may be accessible if a tool is required to make the connections and means are provided to clamp the wire independently from its connection		Р	
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	

IEC 60335-1				
Clause	Requirement + Test	Result - Remark	Verdict	
26.3	Terminals for type X attachment and for connection of cables of fixed wiring so constructed that the conductor is clamped between metal surfaces with sufficient contact pressure but without damaging the conductor		N/A	
	Terminals fixed so that when the clamping means is	tightened or loosened:	N/A	
	- the terminal does not become loose		N/A	
	- internal wiring is not subjected to stress		N/A	
	- neither clearances nor creepage distances are reduced below the values in clause 29		N/A	
	Compliance checked by inspection and by the test of subclause 9.6 of IEC 60999-1, the torque applied being equal to two-thirds of the torque specified (Nm)		N/A	
	No deep or sharp indentations of the conductors		N/A	
26.4	Terminals for type X attachment, except those having a specially prepared cord and those for the connection of cables of fixed wiring, no special preparation of conductors such as by soldering, use of cable lugs, eyelets or similar, and		N/A	
	so constructed or placed that conductors prevented from slipping out when clamping screws or nuts are tightened		N/A	
26.5	Terminals for type X attachment so located or shielded that if a wire of a stranded conductor escapes, no risk of accidental connection to other parts that result in a hazard		N/A	
	Stranded conductor test, 8 mm insulation removed		N/A	
	No contact between live parts and accessible metal parts and,		N/A	
	for class II constructions, between live parts and metal parts separated from accessible metal parts by supplementary insulation only		N/A	
26.6	Terminals for type X attachment and for connection of cables of fixed wiring suitable for connection of conductors with cross-sectional area according to table 13; rated current (A); nominal cross-sectional area (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	

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Clause	Requirement + Test	Result - Remark	Verdict	
26.8	Terminals for the connection of fixed wiring, including the earthing terminal, located close to each other		Р	
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		Р	
	conductors ends fitted with means suitable for screw terminals		N/A	
	Pull test of 5 N to the connection		Р	
26.11	For type Y and Z attachment, soldered, welded, crimped or similar connections may be used		Р	
	For Class II appliances, the conductor so positioned or fixed that reliance is not placed on soldering, welding or crimping alone		N/A	
	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		P	
27	PROVISION FOR EARTHING		Р	
27.1	Accessible metal parts of Class 0I and I appliances permanently and reliably connected to an earthing terminal or earthing contact of the appliance inlet		Р	
	Earthing terminals and earthing contacts not connected to the neutral terminal		Р	
	Class 0, II and III appliances have no provision for protective earthing	Class I	N/A	
	Class II appliances and class III appliances can incorporate an earth for functional purposes		N/A	
	Safety extra-low voltage circuits not earthed, unless		N/A	
	protective extra-low voltage circuits		N/A	
27.2	Clamping means of earthing terminals adequately secured against accidental loosening		Р	
	Terminals for the connection of external equipotential bonding conductors allow connection of conductors of 2.5 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	

IEC 60335-1				
Clause	Requirement + Test	Result - Remark	Verdict	
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A	
27.3	For a detachable part having an earth connection and being plugged into another part of the appliance, the earth connection is made before and separated after current-carrying connections when removing the part		N/A	
	For appliances with supply cords, current-carrying conductors become taut before earthing conductor, if the cord slips out of the cord anchorage		Р	
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A	
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		Р	
	Parts providing earthing continuity, other than parts of a metal frame or enclosure, have adequate resistance to corrosion		Р	
	If of steel, these parts provided with an electroplated coating with a thickness at least 5 µm		N/A	
	Adequate protection against rusting of parts of coated or uncoated steel, only intended to provide or transmit contact pressure		N/A	
	In the body of the earthing terminal is a part of a frame or enclosure of aluminium or aluminium alloys, precautions taken to avoid risk of corrosion		N/A	
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A	
27.5	Low resistance of connection between earthing terminal and earthed metal parts		Р	
	This requirement does not apply to connections providing earthing continuity in the protective extralow voltage circuit, provided the clearances of basic insulation are based on the rated voltage of the appliance		Р	
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A	
	Resistance not exceeding 0,1 Ω at the specified low-resistance test (Ω):	0,062	Р	

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Clause	Requirement + Test	Result - Remark	Verdict			
27.6	The printed conductors of printed circuit boards not used to provide earthing continuity in hand-held appliances.		N/A			
	They may be used to provide earthing continuity in other appliances if at least two tracks are used with independent soldering points and the appliance complies with 27.5 for each circuit		N/A			
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A			
28	SCREWS AND CONNECTIONS		Р			
28.1	Fixings, electrical connections and connections providing earthing continuity withstand mechanical stresses		Р			
	Screws not of soft metal liable to creep, such as zinc or aluminium		Р			
	Diameter of screws of insulating material min. 3 mm		N/A			
	Screws of insulating material not used for any electrical connections or connections providing earthing continuity		Р			
	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		Р			
	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)	Р			
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		Р			
	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 connector which:	tions in circuits of appliances	N/A			

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Clause	Requirement + Test	Result - Remark	Verdict
	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
	Thread-cutting (self-tapping) screws not used if they are likely to be operated by the user or installer		N/A
	Thread-cutting, thread rolling and space threaded sc connections providing earthing continuity provided it connection:		N/A
	- in normal use,		N/A
	- during user maintenance,		N/A
	- when replacing a supply cord having a type X attachment, or		N/A
	- during installation		N/A
	At least two screws being used for each connection providing earthing continuity, unless		N/A
	the screw forms a thread having a length of at least half the diameter of the screw		N/A
28.4	Screws and nuts that make mechanical connection secured against loosening if they also make electrical connections or connections providing earthing continuity		N/A
	This requirement does not apply to screws in the earthing circuit if at least two screws are used, or		N/A
	if an alternative earthing circuit is provided		N/A
	Rivets for electrical connections or connections providing earthing continuity secured against loosening if the connections are subjected to torsion		N/A
29	CLEARANCES, CREEPAGE DISTANCES AND SO	LID INSULATION	Р
	Clearances, creepage distances and solid insulation withstand electrical stress		Р

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Clause	Requirement + Test	Result - Remark	Verdict
	For coatings used on printed circuits boards to protect the microenvironment (Type 1) or to provide basic insulation (Type 2), Annex J applies:		N/A
	The microenvironment is pollution degree 1 under type 1 protection		N/A
	For type 2 protection, the spacing between the conductors before the protection is applied is not less than the values specified in Table 1 of IEC 60664-3		N/A
	These values apply to functional, basic, supplementary and reinforced insulation:		N/A
29.1	Clearances not less than the values specified in table 16, taking into account the rated impulse voltage for the overvoltage categories of table 15, unless	(see appended table)	Р
	for basic insulation and functional insulation they comply with the impulse voltage test of clause 14		N/A
	However, if the distances are affected by wear, distortion, movement of the parts or during assembly, the clearances for rated impulse voltages of 1500V and above are increased by 0,5 mm and the impulse voltage test is not applicable		N/A
	For appliances intended for use at altitudes exceeding 2 000 m, the clearances in Table 16 is increased according to the relevant multiplier values in Table A.2 of IEC 60664-1		N/A
	Impulse voltage test is not applicable:		N/A
	- when the microenvironment is pollution degree 3, or		N/A
	- for basic insulation of class 0 and class 01 appliances, or		N/A
	- to appliances intended for use at altitudes exceeding 2 000 m		N/A
	Appliances are in overvoltage category II		Р
	A force of 2 N is applied to bare conductors, other than heating elements		Р
	A force of 30 N is applied to accessible surfaces		Р
29.1.1	Clearances of basic insulation withstand the overvoltages, taking into account the rated impulse voltage		Р
	The values of table 16 or the impulse voltage test of clause 14 are applicable:	(see appended table)	Р

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Clause	Requirement + Test	Result - Remark	Verdict
	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		Р
29.1.2	Clearances of supplementary insulation not less than those specified for basic insulation in table 16:	(see appended table)	Р
29.1.3	Clearances of reinforced insulation not less than those specified for basic insulation in table 16, using the next higher step for rated impulse voltage	(see appended table)	Р
	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 va	alues determined from:	Р
	- table 16 based on the rated impulse voltage :	(see appended table)	Р
	- table F.7a in IEC 60664-1, frequency not exceeding 30 kHz		N/A
	- clause 4 of IEC 60664-4, frequency exceeding 30 kHz		N/A
	If 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		N/A
	the distances can be affected by wear, distortion, movement of the parts or during assembly		N/A
	However, clearances are not specified if the appliance complies with clause 19 with the functional insulation short-circuited		Р
	Lacquered conductors of windings considered to be bare conductors		Р
	However, clearances at crossover points are not measured		Р
	Clearance between surfaces of PTC heating elements may be reduced to 1mm		N/A
29.1.5	Appliances having higher working voltages than rate insulation are the largest values determined from:	d voltage, clearances for basic	N/A
	- table 16 based on the rated impulse voltage :		N/A
	- table F.7a in IEC 60664-1, frequency not exceeding 30 kHz		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- clause 4 of IEC 60664-4, frequency exceeding 30 kHz		N/A
	If clearances for basic insulation are selected from Table F.7a of IEC 60664-1 or Clause 4 of IEC 60664-4, the clearances of supplementary insulation are not less than those specified for basic insulation		N/A
	If clearances for basic insulation are selected from Table F.7a of IEC 60664-1, the clearances of reinforced insulation dimensioned as specified in Table F.7a are to withstand 160% of the withstand voltage required for basic insulation		N/A
	If clearances for basic insulation are selected from Clause 4 of IEC 60664-4, the clearances of reinforced insulation are twice the value required for basic insulation		N/A
	If the secondary winding of a step-down transformer is earthed, or if there is an earthed screen between the primary and secondary windings, clearances of basic insulation on the secondary side not less than those specified in table 16, but using the next lower step for rated impulse voltage		N/A
	Circuits supplied with a voltage lower than rated voltage, clearances of functional insulation are based on the working voltage used as the rated voltage in table 15		N/A
29.2	Creepage distances not less than those appropriate for the working voltage, taking into account the material group and the pollution degree:	(see appended table)	Р
	Pollution degree 2 applies, unless		Р
	- precautions taken to protect the insulation; pollution degree 1		N/A
	- insulation subjected to conductive pollution; pollution degree 3		N/A
	A force of 2 N is applied to bare conductors, other than heating elements		Р
	A force of 30 N is applied to accessible surfaces		Р
	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)	Р

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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, 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		Р
29.2.2	Creepage distances of supplementary insulation at least those specified for basic insulation in table 17, or	(see appended table)	Р
	Table 2 of IEC 60664-4, as applicable:		N/A
29.2.3	Creepage distances of reinforced insulation at least double those specified for basic insulation in table 17, or:	(see appended table)	Р
	Table 2 of IEC 60664-4, as applicable:		N/A
29.2.4	Creepage distances of functional insulation not less than specified in table 18:	(see appended table)	Р
	However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from table 2 of IEC 60664-4, these values being used if exceeding the values in table 18		N/A
	Creepage distances may be reduced if the appliance complies with clause 19 with the functional insulation short-circuited		N/A
29.3	Supplementary and reinforced insulation have adequate thickness, or a sufficient number of layers, to withstand the electrical stresses		Р
	Compliance checked:		Р
	- by measurement, in accordance with 29.3.1, or		Р
	- by an electric strength test in accordance with 29.3.2, or		N/A
	- for insulation, other than single layer internal wiring insulation, by an assessment of the thermal quality of the material combined with an electric strength test, in accordance with 29.3.3, and		N/A
	for accessible parts of reinforced insulation consisting of a single layer, by measurement in accordance with 29.3.4, or		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- by an assessment of the thermal quality of the material according to 29.3.3 combined with an electric strength test in accordance with 23.5, for each single layer internal wiring insulation touching each other, or		N/A
	- as specified in subclause 6.3 of IEC 60664-4 for insulation that is subjected to any periodic voltage having a frequency exceeding 30 kHz		N/A
29.3.1	Supplementary insulation have a thickness of at least 1 mm	2,88 mm	Р
	Reinforced insulation have a thickness of at least 2 mm	2,88 mm	P:
29.3.2	Each layer of material withstand the electric strength test of 16.3 for supplementary insulation		N/A
	Supplementary insulation consist of at least 2 layers		N/A
	Reinforced insulation consist of at least 3 layers		N/A
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		Р
30.1	External parts of non-metallic material,		Р
	parts supporting live parts, and		Р
	parts of thermoplastic material providing supplementary or reinforced insulation		Р
	sufficiently resistant to heat		Р
	Ball-pressure test according to IEC 60695-10-2		Р
	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)	Р
	Parts supporting live parts tested at 40°C plus the maximum temperature rise determined during the test of clause 11, or at 125 °C, whichever is the higher; temperature (°C)	(see appended table 30.1)	Р

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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)	N/A
30.2	Parts of non-metallic material resistant to ignition and spread of fire		Р
	This requirement does not apply to:		Р
	parts having a mass not exceeding 0,5 g, provided the cumulative effect is unlikely to propagate flames that originate inside the appliance by propagating flames from one part to another, or		Р
	decorative trims, knobs and other parts unlikely to be ignited or to propagate flames that originate inside the appliance		Р
	Compliance checked by the test of 30.2.1, and in addition:		Р
	- for attended appliances, 30.2.2 applies		Р
	- for unattended appliances, 30.2.3 applies		N/A
	For appliances for remote operation, 30.2.3 applies		N/A
	For base material of printed circuit boards, 30.2.4 applies		Р
30.2.1	Parts of non-metallic material subjected to the glow-wire test of IEC 60695-2-11 at 550°C	(see appended table 30.2)	Р
	However, test not carried out if the material is classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least 550 °C, or		N/A
	the material is classified at least HB40 according to IEC 60695-11-10		N/A
	Parts for which the glow-wire test cannot be carried out need to meet the requirements in ISO 9772 for material classified HBF		N/A
30.2.2	Appliances operated while attended, parts of non- metallic material supporting current-carrying connections, and		N/A
	parts of non-metallic material within a distance of 3mm of such connections,		N/A
	subjected to the glow-wire test of IEC 60695-2-11 with appropriate severity level:	(see appended table 30.2)	N/A
	- 750 °C, for connections carrying a current exceeding 0,5 A during normal operation		N/A
	- 650 °C, for other connections		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Glow-wire applied to an interposed shielding material, if relevant		N/A
	The glow-wire test is not carried out on parts of mate wire flammability index according to IEC 60695-2-12		N/A
	- 750 °C, for connections carrying a current exceeding 0,5 A during normal operation		N/A
	- 650 °C, for other connections		N/A
	The glow-wire test is also not carried out on small pa	arts. These parts are to:	
	- comprise material having a glow-wire flammability index of at least 750 °C, or 650 °C as appropriate, or		N/A
	- comply with the needle-flame test of Annex E, or	(see appended table 30.2/30.2.4)	N/A
	- comprise material classified as V-0 or V-1 according to IEC 60695-11-10:		N/A
	Glow-wire test not applicable to conditions as specified:	Appliances that are continuously loaded by hand	Р
30.2.3	Appliances operated while unattended, tested as specified in 30.2.3.1 and 30.2.3.2		N/A
	The tests are not applicable to conditions as specified:		N/A
30.2.3.1	Parts of non-metallic material supporting connections carrying a current exceeding 0,2 A during normal operation, and		N/A
	parts of non-metallic material, other than small parts, within a distance of 3 mm,		N/A
	subjected to the glow-wire test of IEC 60695-2-11 with a test severity of 850 °C	(see appended table 30.2)	N/A
	Glow-wire applied to an interposed shielding material, if relevant		N/A
	The glow-wire test is not carried out on parts of material classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least 850 °C		N/A
30.2.3.2	Parts of non-metallic material supporting connections, and		N/A
	parts of non-metallic material within a distance of 3mm,		N/A
	subjected to the glow-wire test of IEC 60695-2-11 with appropriate severity level:	(see appended table 30.2)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- 750 °C, for connections carrying a current exceeding 0,2 A during normal operation		N/A
	- 650 °C, for other connections		N/A
	Glow-wire applied to an interposed shielding material, if relevant		N/A
	However, the glow-wire test of 750 °C or 650 °C as an on parts of material fulfilling both or either of the follow		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		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		N/A
	- 650 °C, for other connections		N/A
	The glow-wire test is also not carried out on small part	ts. These parts are to:	N/A
	- comprise material having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or		N/A
	- comprise material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or		N/A
	- comply with the needle-flame test of Annex E, or		N/A
	- comprise material classified as V-0 or V-1 according to IEC 60695-11-10		N/A
	The consequential needle-flame test of Annex E appli encroach within the vertical cylinder placed above the and on top of the non-metallic parts supporting curren parts of non-metallic material within a distance of 3 mi parts are those:	e centre of the connection zone at-carrying connections, and	N/A
	- parts that withstood the glow-wire test of IEC 60695-2-11 of 750 °C or 650 °C as appropriate, but produce a flame that persist longer than 2 s, or		N/A
	- parts that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or		N/A
	- small parts, that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- small parts for which the needle-flame test of Annex E was applied, or		N/A
	- small parts for which a material classification of V-0 or V-1 was applied		N/A
	However, the consequential needle-flame test is no parts, including small parts, within the cylinder that a		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 Annex E or that comprises material classified as V-0 or V-1 according to IEC 60695-11-10		N/A
30.2.4	Base material of printed circuit boards subjected to the needle-flame test of Annex E	(see appended table 30.2/30.2.4)	N/A
	Test not applicable to conditions as specified:	V-0	Р
31	RESISTANCE TO RUSTING		N/A
	Relevant ferrous parts adequately protected against rusting		N/A
	Tests specified in part 2 when necessary		N/A
32	RADIATION, TOXICITY AND SIMILAR HAZARDS		Р
	Appliance does not emit harmful radiation or present a toxic or similar hazard due to their operation in normal use		Р
	Compliance is checked by the limits or tests specified in part 2, if relevant		Р
A	ANNEX A (INFORMATIVE) ROUTINE TESTS		N/A
В	ANNEX B (NORMATIVE) APPLIANCES POWERED BY RECHARGEABLE E RECHARGED IN THE APPLIANCE	BATTERIES THAT ARE	N/A
С	ANNEX C (NORMATIVE) AGEING TEST ON MOTORS		N/A
D	ANNEX D (NORMATIVE) THERMAL MOTOR PROTECTORS		N/A
E	ANNEX E (NORMATIVE) NEEDLE-FLAME TEST		N/A
F	ANNEX F (NORMATIVE) CAPACITORS		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G	ANNEX G (NORMATIVE) SAFETY ISOLATING TRANSFORMERS		N/A
Н	ANNEX H (NORMATIVE) SWITCHES		N/A
I	ANNEX I (NORMATIVE) MOTORS HAVING BASIC INSULATION THAT IS RATED VOLTAGE OF THE APPLIANCE	INADEQUATE FOR THE	N/A
J	ANNEX J (NORMATIVE) COATED PRINTED CIRCUIT BOARDS		N/A
K	ANNEX K (NORMATIVE) OVERVOLTAGE CATEGORIES		N/A
	The information on overvoltage categories is extracted from IEC 60664-1		Р
	Overvoltage category is a numeral defining a transient overvoltage condition		Р
	Equipment of overvoltage category IV is for use at the origin of the installation		N/A
	Equipment of overvoltage category III is equipment in fixed installations and for cases where the reliability and the availability of the equipment is subject to special requirements		N/A
	Equipment of overvoltage category II is energy consuming equipment to be supplied from the fixed installation		Р
	If such equipment is subjected to special requirements with regard to reliability and availability, overvoltage category III applies		N/A
	Equipment of overvoltage category I is equipment for connection to circuits in which measures are taken to limit transient overvoltages to an appropriate low level		N/A
L	ANNEX L (INFORMATIVE) GUIDANCE FOR THE MEASUREMENT OF CLEADISTANCES	RANCES AND CREEPAGE	Р
	Information for the determination of clearances and creepage distances		Р
М	ANNEX M (NORMATIVE) POLLUTION DEGREE		Р
	The information on pollution degrees is extracted from IEC 60664-1		Р
	Pollution	•	Р

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Clause	Requirement + Test	Result - Remark	Verdict	
	The microenvironment determines the effect of pollution on the insulation, taking into account the macroenvironment		Р	
	Means may be provided to reduce pollution at the insulation by effective enclosures or similar		Р	
	Minimum clearances specified where pollution may be present in the microenvironment		Р	
	Degrees of pollution in the microenvironment		Р	
	For evaluating creepage distances, the following demicroenvironment are established:	grees of pollution in the	Р	
	- 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		Р	
	- pollution degree 3: conductive pollution occurs or dry non-conductive pollution occurs that becomes conductive due to condensation that is to be expected		N/A	
	- pollution degree 4: the pollution generates persistent conductivity caused by conductive dust or by rain or snow		N/A	
N	ANNEX N (NORMATIVE) PROOF TRACKING TEST		Р	
	The proof tracking test is carried out in accordance via	with IEC 60112 with the	Р	
7	Test apparatus		Р	
7.3	Test solutions		Р	
	Test solution A is used		Р	
10	Determination of proof tracking index (PTI)		Р	
10.1	Procedure		Р	
	The proof voltage is 100V, 175V, 400V or 600V:	175V	Р	
	The test is carried out on five specimens		Р	
	In case of doubt, additional test with proof voltage reduced by 25V, the number of drops increased to 100		N/A	
10.2	Report		N/A	

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Clause	Requirement + Test	Result - Remark	Verdict
	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
0	ANNEX O (INFORMATIVE) SELECTION AND SEQUENCE OF THE TESTS OF	CLAUSE 30	Р
	Description of tests for determination of resistance to heat and fire		Р
P	ANNEX P (INFORMATIVE) GUIDANCE FOR THE APPLICATION OF THIS STUSED IN TROPICAL CLIMATES	ANDARD TO APPLIANCES	N/A
Q	ANNEX Q (INFORMATIVE) SEQUENCE OF TESTS FOR THE EVALUATION C	OF ELECTRONIC CIRCUITS	N/A
R	ANNEX R (NORMATIVE) SOFTWARE EVALUATION		N/A
S	S ANNEX S (NORMATIVE) BATTERY OPERATED APPLIANCES POWERED BY BATTERIES THAT ARE NON-RECHARGEABLE OR NOT RECHARGED IN THE APPLIANCE		
Т	ANNEX T (NORMATIVE) UV-C RADIATION EFFECT ON NON-METALLIC N	IATERIALS	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

10.1	TABLE: Po	TABLE: Power input deviation					
Input dev	viation of/at:	P rated (W)	P measured (W)	dP	Required dP	Remark	
230 V		700	79.1	-88,7 %	+15 %	Р	
115 V		700	165,3	-76,4 %	+15 %	Р	
Suppleme	entary information	on:					

10.2	TABLE: Curre	TABLE: Current deviation						
Current deviation of/at:		I rated (A)	I measured (A)	dl	Required dl	R	emark	
Supplementa	ary information:							

11.8	TABLE: Heating test	TABLE: Heating test, thermocouples: 220-240V			
	Test voltage (V):		207/254		
	Ambient (°C):		21,4/21,5		
Thermoc	ouple locations	dT (K)	Max. dT (K)		
Supply co	ord	4	50		
Switch ar	mbient	5	30		
Internal v	vire	6	50		
X2 capac	itor	15	50		
Plastic er	nclosure of PCB	7	Ref.		
PCB		12	120		
Plastic er	nclosure	2	50		
Enclosur	e (Plastic)	4	50		
Enclosur	e (Metal)	4	50		
Switch knob		3	60		
Brush cap		7	Ref.		
Handle		2	50		
Fuse hold	der	5	Ref.		

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Clause	Requirement + Test	Result - Remark	Verdict

11.8	TABLE: Heating test, resistance method: 220-240V								
	Test voltage (V): 254								
	Ambient, t1 (°C):				23,0			_	
	Ambient, t2 (°C):				21,5			_	
Temperature rise of winding		R1 (Ω)	R2 (Ω)	dT	(K)	Max. dT (K)	Insu	lation	
Rotor (diagonal)		6,898	7,642	29,3	3	140	Clas	s 180	

11.8	TABLE: Heating test	TABLE: Heating test, thermocouples: 110-120V		
	Test voltage (V):		103/127	_
	Ambient (°C):		21,9/22,4	_
Thermo	couple locations	dT (K)	Max. dT (K)	,
Supply	cord	3	50	
Switch a	ambient	4	30	
Internal	wire	5	50	
X2 capa	citor	4	50	
Plastic (enclosure of PCB	4	Ref.	
PCB		4	120	
Enclosu	ıre (Plastic)	4	50	
Enclosu	ıre (Metal)	4	50	
Switch I	knob	2	60	
Brush cap		7	Ref.	
Handle		2	50	
Fuse ho	lder	4	Ref.	

11.8	TABLE: Heating test, resistance method: 110-120V							Р
	Test voltage (V):				103			
	Ambient, t1 (°C):				20,6			_
	Ambient, t2 (°C):				21,9			
Temperature rise of winding		R1 (Ω)	R2 (Ω)	dT	(K)	Max. dT (K)	Insu	lation s
Rotor (diagonal)		2,036	2,213	20,	9	140	Clas	s 180

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Clause	Requirement + Test	Result - Re	Verdict		
13.2	TABLE: Leakage current			Р	
	Heating appliances: 1.15 x rated input:	-		_	
	Motor-operated and combined appliances: 1.06 x rated voltage:	127 V/254 V			
Leakage	current between	I (mA)	Max. allowe	ed I (mA)	
L/N and a	accessible metal part (127 V)	0.09	3.5		
L/N and a	L/N and accessible metal part (254 V) 0.11 3.5				
		·	·		
13.3	TABLE: Electric strength			Р	

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13.3	TABLE: Electric strength			
Test voltage	e applied between:	Voltage (V)	Breakdown (Yes/No)	
L/N and acc	essible metal part	1000	No	
L/N and cor	ntrol panel	3000	No	

14	TABLE: Transient overvoltages						
Clearance between:		CI (mm)	Required CI (mm)	Rated impulse voltage (V)	Impulse test voltage (V)		ashover (es/No)
Supplementary information:							

16.2	TABLE: Leakage current					
	Single phase appliances: 1.06 x rated voltage:	127 V/254 V				
	Three phase appliances 1.06 x rated voltage divided by √3::					
Leakage current between		I (mA)	Max. allowed I (n			
L/N and	accessible metal part (127 V)	0.09	3.5			
L/N and	L/N and accessible metal part (254 V)		3.5			
Supplen	nentary information:					

16.3	TABLE: Electric strength			Р
Test voltage	e applied between:	Test potential applied (V)	Breakdown / (Yes/N	

	IEC 60335-1								
Clause	Requirement + Test		Result - Remark		Verdict				
L/N and accessible metal part		1250		No					
L/N and cor	ntrol panel	3000		No					
Supplemen	tary information:	•							

17	TABLE: Overload protection	on		N/A
Thermo	ocouple locations:	Max. temperature rise measured, dT (K)	Max. tempera	
Supple	mentary information:			

17	TABLE: Overload	protection, res	istance method	d			N/A
	Test voltage (V)		:				_
	Ambient, t1 (°C):						_
	Ambient, t2 (°C)		:				_
Temper	rature of winding:	R1 (Ω)	R2 (Ω)	dT (K)	T (°C)	Ma	ax. T (°C)
Supple	mentary information:						·

19	Abnormal oper	ation condition	ıs				Р
Operational characteristics			YES/NO	Operational conditions			
Are there electronic circuits to control the appliance operation?			YES	Electronic circuit encapsulated. Fault condition b) and d). No hazard.			
Are there "o	Are there "off" or "stand-by" position?			No hazard.			
The unintended operation of the appliance results in dangerous malfunction?			NO	No hazaro	i.		
Sub-clause	Operating conditions	Test results description	PEC description	EMP 19.11.4	Software type	19.11.3 PEC	Final result

	IEC 60335-1		
Clause	Requirement + Test	Result - Remark	Verdict

	description				required		
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	Locking moving part	See table 19.7	N.A	N.A	N.A	N.A	Р
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	operated at 1.3 times rated voltage for 1 min	parts not being ejected from the appliance	N.A	N.A	N.A	N.A	Р
19.11.2	Fault condition b) and d)	No operation.No hazard.	N.A	N.A	N.A	N.A	Р
19.11.4.8	N.A	N.A	N.A	N.A	N.A	N.A	Р
19.10X	N.A	N.A	N.A	N.A	N.A	N.A	N.A

19.7	TABLE: Abnorma	al operation, lo	cked rotor/mov	ing parts: 22	20-240V		Р
	Test voltage (V)			240	240		
	Ambient, t1 (°C)	21,4	21,4				
	Ambient, t2 (°C):			21,7			_
Temperatu	ure of winding:	R1 (Ω)	R2 (Ω)	dT (K)	T (°C)	Ma	ax. T (°C)
Rotor (dia	gonal)	6,898	8,725	67,5	89,2	260	
Suppleme	ntary information:						

19.7	TABLE: Abnormal o	ΓABLE: Abnormal operation, locked rotor/moving parts: 110-120V					
	Test voltage (V)	120			_		
	Ambient, t1 (°C)	20,6			_		
	Ambient, t2 (°C)	20,6			_		
Temperatu	Temperature of winding: R1 (Ω) R2 (Ω)				T (°C)	Ma	ax. T (°C)

IEC 60335-1								
Clause	se Requirement + Test Result - Remark V						Verdict	
Rotor (diagonal) 2,063 2,305 33,7 54,3 260						0		
Supplem	Supplementary information:							

19.9	TABLE: Abnormal of	operation, run	ning overload				N/A
	Test voltage (V)		:				_
	Ambient, t1 (°C)					_	
	Ambient, t2 (°C)				_		
Temperature of winding:		R1 (Ω)	R2 (Ω)	dT (K)	T (°C)	Ma	ax. T (°C)
Suppleme	ntary information:						

19.13	TABLE: Abnormal opera	tion, temperature rises		Р
Thermod	couple locations:	Max. temperature rise measured, dT (K)	Max. tempera	
Enclosu	re	22	Ref.	
Supply o	ord	45	Ref.	
Test cor	ner	3	Ref.	
Supplem	nentary information:		•	

21.1	TABLE: Im	pact resistance			Р	
Impacts p	er surface	Surface tested	Impact energy (Nm)	Commer	nts	
Encl	osure	3 times	0,5 J	Р		
Har	ndle	3 times	0,5 J	Р		
Supplement	tary informati	on:				

	IEC 60335-1		
Clause	Requirement + Test	Result - Remark	Verdict

24.1 TAI	BLE: Components				Р	
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity	
Supply cord*	NEXANS	H07RN-F	3 G 1,0 mm ²	IEC 60245	LCIE	
Alternative	Ta Tun Electric	H07RN-F	3 G 1,0 mm ²	IEC 60245	VDE	
Alternative	Ta An Electrical	H05VV-F	3 G 1,0 mm ²	IEC 60227	VDE	
Alternative	Lu Chiang Electric	H05VV-F	3 G 1,0 mm ²	IEC 60227	VDE	
Alternative	I-Sheng Electric	H05VV-F	3 G 1,0 mm ²	IEC 60227	VDE	
Plug*	TA AN Electrical	TP-52 TP-51 TP-50	250 Vac; 16 A	IEC 60884	VDE	
Alternative	TA AN Electrical	TP-66	250 Vac; 13 A Fuse included	BS 1363	ASTA	
Alternative	TA AN Electrical	TP-23	250 Vac; 10 A	IEC 60884	DEMKO	
Alternative	TA AN Electrical	TP-32	250 Vac; 10 A	IEC 60884	SEV	
Alternative	TA AN Electrical	TP-33	250 Vac; 10 A	IEC 60884	IMQ	
Alternative	TA AN Electrical	TP-34	250 Vac; 10 A	IRAM 20073	IRAM	
Alternative	TA AN Electrical	TP-22	250 Vac; 10 A or 15 A	IEC 60884	SAA	
Alternative	Ching Cheng wire material Co., Ltd.	EL-208	250 Vac; 16 A	SANS 164-1	SABS	
Alternative	Ningbo Znpon	P1134	130 Vac; 16 A;	IEC 60309	SEMKO	
Alternative	Ta An Electrical	TP-11	125 Vac; 15 A	IEC 60884	PSE	
Main switch	Chily precision Ind. Co., Ltd.	6021	250 Vac; 16(6) A; 10E3	IEC 61058-1	VDE	
X2 Capacitor** For 110-120 V and 220-240 V	Carli Electronics	MPX	0,33 μF; 275 Vac; X2	IEC 60384-14	VDE	
Alternative	Aid Electronics	MEX	0,33 μF; 275 Vac; X2	IEC 60384-14	VDE	
X2 Capacitor** For 110-120 V	Carli Electronics	MPX	0,47 μF; 275 Vac; X2	IEC 60384-14	VDE	
Alternative	Aid Electronics	MEX	0,47 μF; 275 Vac; X2	IEC 60384-14	VDE	

	IEC 60335-1		
Clause	Requirement + Test	Result - Remark	Verdict

X2 Capacitor** For 110-120 V	Carli Electronics	MPX	0,1 μF; 275 Vac; X2	IEC 60384-14	VDE
Alternative	Aid Electronics	MEX	0,1 μF; 275 Vac; X2	IEC 60384-14	VDE
X2 Capacitor** For 220-240 V	Carli Electronics	MPX	0,22 μF; 275 Vac; X2	IEC 60384-14	VDE
Alternative	Aid Electronics	MEX	0,22 μF; 275 Vac; X2	IEC 60384-14	VDE
РСВ	HAN-SONIC	ETL-XPC-204	1,6 mm; 94 V-0	IEC 60335-1	Tested with appliance (UL/E131242)
Fuse holder	Shin Chin Industrial Co., Ltd.	R3-13	250 Vac	IEC 60335-1	Tested in appliance (UL/E72169)
Fuse for 110-120 V	Conquer Electronics	ADA	125 Vac; 20 A	IEC 60335-1	Tested in appliance (UL/E82636)
Fuse for 220-240 V	Conquer Electronics	ADA	250 Vac; 15 A	IEC 60335-1	Tested in appliance (UL/E82636)

¹⁾ An asterisk indicates a mark which assures the agreed level of surveillance

^{*)} or other certified plugs and cables with the same technical data
**) or any other certified brand/type with equivalent ratings and the same construction.

28.1	TABLE: Thread	led part torque test			Р
Threaded paridentification		Diameter of thread (mm)	Column number (I, II, or III)	Applied torqu	e (Nm)
Earthing		3,90	II	1,2	
Enclosure		3,85	II	1,2	
Supplementa	ry information:		•	•	

29.1	9.1 TABLE: Clearances									
	Overvoltage category									
			Type of insulation:							
Rated impulse voltage (V):	Min. cl (mm)	Basic (mm)	Supplementary (mm)	Reinforced (mm)	Functional (mm)		/erdict / Remark			

			IEC 60335-1					
Clause	Requirement + Test			Result - Rem	Result - Remark			
			T	I	I			
330	0,2* / 0,5 / 0,8**			—				
500	0,2* / 0,5 / 0,8**							
800	0,2* / 0,5 / 0,8**					_		
1 500	0,5 / 0,8** / 1,0***	_			_			
2 500	1,5 / 2,0***	Х	X	_	X	Р		
4 000	3,0 / 3,5***		_	Х	_	Р		
6 000	5,5 / 6,0***		_	_	_			
8 000	8,0 / 8,5***		_	_	_			
10 000	11,0 / 11,5***		_	_	_	_		

Supplementary information:

^{*)} For tracks on printed circuit boards if pollution degree 1 and 2
**) For pollution degree 3
***) If the construction is affected by wear, distortion, movement of the parts or during assembly

29.2	TABLE:	Creep	age dis	tances,	basic, su	ıppleme	ntary a	nd reinfo	rced i	nsulati	ion	Р
_	Working voltage (V):		Creepage distance (mm) Pollution degree								ļ	
		1		2			3			Type o		
			Material group		Ma	terial g	roup					
			- 1	II	Illa/IIIb	I	П	IIIa/IIIb*	B**	S**	R**	Verdict
≤50		0,18	0,6	0,85	1,2	1,5	1,7	1,9		_	_	N/A
≤50		0,18	0,6	0,85	1,2	1,5	1,7	1,9	_			N/A
≤50		0,36	1,2	1,7	2,4	3,0	3,4	3,8	_			N/A
125		0,28	0,75	1,05	1,5	1,9	2,1	2,4				N/A
125		0,28	0,75	1,05	1,5	1,9	2,1	2,4	_			N/A
125		0,56	1,5	2,1	3,0	3,8	4,2	4,8	_			N/A
250		0,56	1,25	1,8	<u>2,5</u>	3,2	3,6	4,0	X			Р
250		0,56	1,25	1,8	<u>2,5</u>	3,2	3,6	4,0	—	Х		Р
250		1,12	2,5	3,6	<u>5,0</u>	6,4	7,2	8,0	_		Х	Р
400		1,0	2,0	2,8	4,0	5,0	5,6	6,3				N/A
400		1,0	2,0	2,8	4,0	5,0	5,6	6,3	_		_	N/A
400		2,0	4,0	5,6	8,0	10,0	11,2	12,6				N/A

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					IEC 6	0335-1						
Clause	Requirer	ment +	Test				Res	sult - Rem	ark			Verdict
500	<u> </u>	1,3	2,5	3,6	5,0	6,3	7,1	8,0		_	_	N/A
500	0	1,3	2,5	3,6	5,0	6,3	7,1	8,0			_	N/A
500	0	2,6	5,0	7,2	10,0	12,6	14,2	16,0				N/A
>630 and	d ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0		_	_	N/A
>630 and	008≥ b	1,8	3,2	4,5	6,3	8,0	9,0	10,0				N/A
>630 and	008≥ b	3,6	6,4	9,0	12,6	16,0	18,0	20,0				N/A
>800 and	l ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5				N/A
>800 and	l ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5				N/A
>800 and	l ≤1000	4,8	8,0	11,2	16,0	20,0	22,0	25,0				N/A
>1000 and	d ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0				N/A
>1000 and	d ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0				N/A
>1000 and	d ≤1250	6,4	10,0	14,2	20,0	25,0	28,0	32,0				N/A
>1250 and	d ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0				N/A
>1250 and	d ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0				N/A
>1250 and	d ≤1600	8,4	12,6	18,0	25,0	32,0	36,0	40,0				N/A
>1600 and	d ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0				N/A
>1600 and	d ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0				N/A
>1600 and	d ≤2000	11,2	16,0	22,0	32,0	40,0	44,0	50,0		_		N/A
>2000 and	d ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0		_	_	N/A
>2000 and	d ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0				N/A
>2000 and	d ≤2500	15,0	20,0	28,0	40,0	50,0	56,0	64,0		_		N/A
>2500 and	d ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0		_	_	N/A
>2500 and	d ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0			_	N/A
>2500 and	d ≤3200	20,0	25,0	36,0	50,0	64,0	72,0	80,0		_		N/A
>3200 and	d ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0		_	_	N/A
>3200 and	d ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0			_	N/A
>3200 and	d ≤4000	25,0	32,0	44,0	64,0	80,0	90,0	100,0	_	_		N/A
>4000 and	d ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0		_	_	N/A
>4000 and	d ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0			_	N/A
>4000 and	d ≤5000	32,0	40,0	56,0	80,0	100,0	112,0	126,0		_		N/A
>5000 and	d ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0			_	N/A
>5000 and	d ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0				N/A

					IEC 6	0335-1						
Clause	Requiren	nent +	Test				Res	sult - Rem	ark			Verdict
				1			1				1	
>5000 and :	≤6300	40,0	50,0	72,0	100,0	126,0	142,0	160,0	_	_		N/A
>6300 and	≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0				N/A
>6300 and	≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0				N/A
>6300 and	≤8000	50,0	64,0	90,0	126,0	160,0	180,0	200,0				N/A
>8000 and ≤	≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0				N/A
>8000 and ≤	≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0				N/A
>8000 and ≤	≤10000	64,0	80,0	112,0	160,0	200,0	220,0	250,0				N/A
>10000 and :	≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0				N/A
>10000 and	≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0				N/A
>10000 and	≤12500	80,0	100,0	142,0	200,0	250,0	280,0	320,0		_		N/A

Supplementary information:

 $^{^{\}star)}$ Material group IIIb is allowed if the working voltage does not exceed 50 V $^{\star\star)}$ B = Basic insulation, S = Supplementary insulation, R = Reinforced insulation

29.2 TA	BLE: Creep	age dis		Р						
Working voltage (V))									
	1		2			3				
		Ma	terial gr	oup	Ma	aterial g	roup			
		I	П	IIIa/IIIb	I	П	IIIa/IIIb*)	Verdict / Re	emark	
≤10	0,08	0,4	0,4	0,4	1,0	1,0	1,0	N/A		
50	0,16	0,56	0,8	1,1	1,4	1,6	1,8	N/A		
125	0,25	0,71	1,0	1,4	1,8	2,0	2,2	N/A		
250	0,42	1,0	1,4	2,0 2,5 2,8 3,2				Р		
400	0,75	1,6	2,2	3,2	4,0	4,5	5,0	N/A		
500	1,0	2,0	2,8	4,0	5,0	5,6	6,3	N/A		
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	N/A		
>800 and ≤100	0 2,4	4,0	5,6	8,0	10,0	11,0	12,5	N/A		
>1000 and ≤125	3,2	5,0	7,1	10,0	12,5	14,0	16,0	N/A		
>1250 and ≤160	00 4,2	6,3	9,0	12,5	16,0	18,0	20,0	N/A		
>1600 and ≤200	00 5,6	8,0	11,0	16,0	20,0	22,0	25,0	N/A		
>2000 and ≤250	00 7,5	10,0	14,0	20,0	25,0	28,0	32,0	N/A		
>2500 and ≤320	00 10,0	12,5	18,0	25,0	32,0	36,0	40,0	N/A		

IEC 60335-1													
Clause	Requireme	nt + Te	st		Result		Verdict						
				1			1						
>3200 and ≤4000		12,5	16,0	22,0	32,0	40,0	45,0	50,0	N/A				
>4000 and ≤5000		16,0	20,0	28,0	40,0	50,0	56,0	63,0	N/A				
>5000 and ≤6300		20,0	25,0	36,0	50,0	63,0	71,0	80,0	N/A				
>6300 and ≤8000		25,0	32,0	45,0	63,0	80,0	90,0	100,0	N/A				
>8000 and ≤10000		32,0	40,0	56,0	80,0	100,0	110,0	125,0	N/A				
>10000 and ≤12500		40,0	50,0	71,0	100,0	125,0	140,0	160,0	N/A				
Supplement	ary informat	ion:											

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

	IEC 60335-1		
Clause	Requirement + Test	Result - Remark	Verdict

30	TABLE: Resistance to heat and fire																			
Object/ part No.	Manufacturer / trademark	Type/ model	Ball pressure test °C			Glow wire test (GWT) °C					Glow-wire flammability index (GWFI) °C				Glow- wire ignition temp. (GWIT) °C	Needle - flame test (NFT)	Verdict			
			75	125	cl. 11	cl. 19	550	650		750		850	550	650	750	850	675	775		
					+40	10 +25		te		te	ti									
Enclosure	-	-	0,9		-	-	Х	-	-	-	-	-	-	-	-	-	-	-	-	Р
Brush cap	-	-		0,8	-	-	Х	-	-	-	-	-	-	-	-	-	-	-	-	Р
Plastic support of PCB	-	-		1,1	-	-	Х	-	-	-	-	-	-	-	-	-	-	-	-	Р

Supplementary information:

¹⁾ Parts of material classified at least HB40 or if relevant HBF

²⁾ Parts of material classified as V-0 or V-1

³⁾ Flame persisting longer than 2 s (= te - ti) need only be reported for unattended appliances
⁴⁾ Surrounding parts subjected to the needle-flame test of annex E
⁵⁾ Base material classified as V-0 or if relevant VTM-0

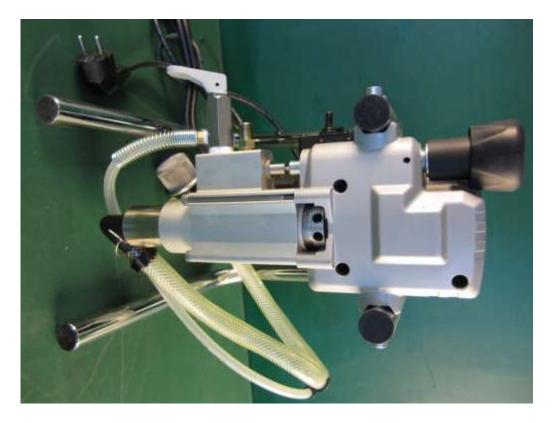
⁶⁾ The GWIT pre-selection option, the 850 °C GWFI pre-selection option, and the 850 °C GWT are not applicable for attended appliances

Photos





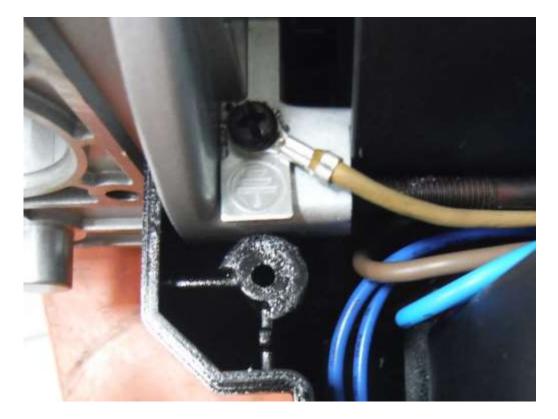


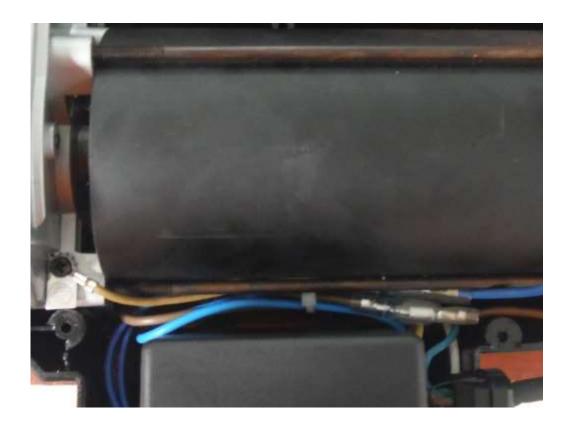


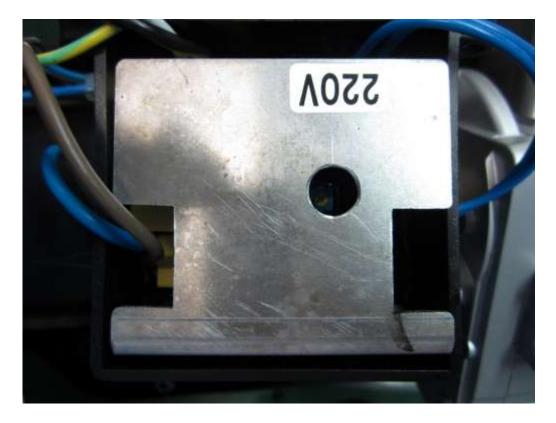






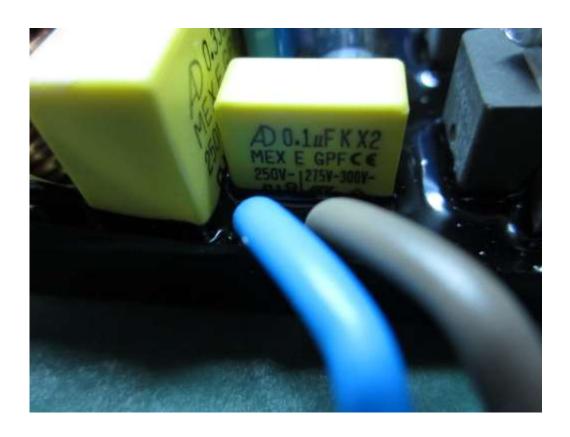


















END-