LAB LOGO

Test Report No.: xx001		*Page 1 XXX* *Issue Date: DD/MM/YYYY*
Manufacturer:	**Applicant's Name** **Applicant's address**	
Test item:	**Household and Similar Electrical Appliances**	
Identification:	**(Model No.)**	*Serial No.:*
Receipt No.:		*Date of receipt:*
Testing laboratory and its address:	**Lab Name** **Lab address**	
Test specification:	**IS 302 (Part 1):2024/ IEC 60335-1:2020**	
Test Result:	*The test item passed / failed the test specification(s).*	
Other Aspects: *- This report consists of XX pages and the attachment as detailed in page no. xx*		
This test report relates to the test sample submitted.		

Tested by:	**Approved by /Authorized Signatory:**	**Issued by:**
(Name / Designation)	**(Name / Designation)**	**(Name / Designation)**
Date:	**Date:**	**Date:**

TEST REPORT

IS 302 (Part 1):2024/IEC 60335-1:2020

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY – Part 1: General requirements

Report Number. .....:	**xxxxxxxxx 001**
Date of issue.....:	(See Cover page)
Total number of pages.....:	(See Cover page)
Manufacturer's name ..... :	Applicant's Name
Address ..... :	Applicant's address
Test specification:	
Standard.....:	IS 302 (Part 1):2024/IEC 60335-1:2020
Test procedure .....:	Compulsory Registration Scheme
Non-standard test method .....:	N/A
Test Report Form No. .....:	BIS_ HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES _IS 302_V1.0
Test Report Form(s) Originator ..:	Bureau of Indian Standards
Test Report Form	27/03/2025
Test item description ..... :	**Household and Similar Electrical Appliances**
Trademark.....:	
Model/Type reference .....:	
Ratings	
Other Documents submitted.....:	Please refer to Table – List of Attachments at Page No. xx

Tested by:	**Approved by / Authorized Signatory:**	**Issued by:**
(Name / Designation)	**(Name / Designation)**	**(Name / Designation)**
Date:	**Date:**	**Date:**

Test Code	Description	Measurement/ testing	Total No. of tests	Total no. of applicable tests/ Req.	No. of tests/ Req. passed	Page No.
EL 1500	General	Classification (Cl 6)	03			
EL 1501	Marking requirements	Marking and instructions (Cl 7)	29			
EL 1502	Electrical safety	Protection against access to live part test (Cl 8)	12			
EL 1503	Electrical safety	Starting of motor-operated appliances test (Cl 9)	01			
EL 1504	Electrical safety	Power Input and current test (Cl 10)	03			
EL 1505	Heating Requirements	Heating test (Cl 11)	13			
EL 1506	Electrical safety	Charging of metal-ion batteries (Cl 12)	05			
EL 1507	Electrical safety	Leakage current and electric strength test (Cl 13)	04			
EL 1508	Interference suppression requirements	Impulse voltage test (Cl 14)	02			
EL 1509	Electrical safety	Humidity treatment test (Cl 15)	23			
EL 1510	Electrical safety	Leakage current and electric strength test (Cl 16)	04			
EL 1511	Electrical safety	Overload protection of transformers test (Cl 17)	04			
EL 1512	Endurance requirements	Endurance test (Cl 18)	01			
EL 1513	Electrical safety	Fault conditions (Cl 19)	64			
EL 1514	Stability and mechanical hazards	10° Tilt stability test (Cl 20)	10			
EL 1515	Mechanical properties	Impact and scratch test (Cl 21)	14			
EL 1516	Constructional requirements	Construction verification related tests (Cl 22)	88			
EL 1517	Electrical safety	HV test for basic insulation (int. wires) (Cl 23)	20			
EL 1518	Components	Components (Cl 24)	39			
EL 1519	Wiring	Supply connections and External Flexible	59			

		Cables and cords testing (Cl 25)				
EL 1520	Wiring	Terminal For External Conductors pull test (Cl 26)	24			
EL 1521	Electrical safety	Earth bond test (Cl 27)	12			
EL 1522	Mechanical stress	Screws and connections test (Cl 28)	17			
EL 1523	Mechanical properties	Clearances and Creepage distances (Cl 29)	37			
EL 1524	Physical properties	Resistance to fire tests(Cl 30)	25			
EL 1525	Resistance to rusting	Resistance to rusting (Cl 31)	02			
EL 1526	Radiation toxicity hazards	Radiation tests (Cl 32)	05			
EL 1527	Annex A	Routine Tests	02			
EL 1528	Annex B	Appliances Powered by Rechargeable Batteries	27			
EL 1529	Annex C	Ageing test on motors	02			
EL 1530	Annex D	Thermal motor protectors	02			
EL 1531	Annex E	Needle-flame test	08			
EL 1532	Annex F	Capacitors	15			
EL 1533	Annex G	Safety isolating transformers	10			
EL 1534	Annex H	Switches	16			
EL 1535	Annex I	Motors having basic insulation that is inadequate for the rated voltage of the appliance	14			
EL 1536	Annex J	Coated printed circuit boards	08			
EL 1537	Annex K	Overvoltage categories	08			
EL 1538	Annex L	Guidance for the measurement of clearances and creepage distances	02			
EL 1539	Annex M	Pollution degree	12			
EL 1540	Annex N	Proof tracking test	13			

EL 1541	Annex O	Selection and sequence of the tests of clause 30	02			
EL 1542	Annex P	Guidance for the application of this standard to appliances used in warm damp equable climates	12			
EL 1543	Annex Q	Sequence of tests for the evaluation of electronic circuits	02			
EL 1544	Annex R	Software evaluation	13			
EL 1545	Annex S	Ball Pressure Test	24			

Copy of marking plate

Certificate: It is certified that the above tests were performed and found to be passing/~~failing~~ in the Requirements tested.

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(Approving Authority)

Table EL1519-(01 to 58)

Cl. 24.1	TABLE: list of components and materials				P
Object / part No.	**Manufacturer / trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity**
Supplementary information:					

Tested by:	**Approved by/Authorized Signatory:**
(Name / Designation)	**(Name / Designation)**

Test item particulars……..:	Household and Similar Electrical Appliances
Sample received condition……..:	☐ Good ☐ Others
Classification of installation and use..... :	
Supply Connection ..... :	
Ambient Temperature / Humidity..... :	
Testing:	
Date of receipt of test item .....:	
Date (s) of performance of tests .....:	
General remarks:	
The test results presented in this report relate only to the object tested. **This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.**	

General product information:
Differences between the models: N/A

Tested by: **(Name & Designation)**	**Approved by/Issued by:** **(Name & Designation)**

EL 1500-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
6	Classification *	El 1500 - 00		
6.1	Appliance shall be one of the following classes with respect to the protection against electric shock: Class 0, 0I, I, II, III *	El 1500 - 01		
6.2	Appliances shall have the appropriate degree of protection against harmful ingress of water *	El 1500 - 02		

*Total number of Requirements to be observed / inspected = 03
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 00
Total No. of Applicable Tests = 00
No. of tests for which the sample passed= 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1501-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
7	Marking and instructions	EL1501-00		
7.1	Appliance shall be marked with the *	EL1501-01		
	Rated voltage or voltage range in volts; *			
	Symbol for nature of supply, unless the rated frequency is marked; *			
	rated power input in watts or rated current in amperes; *			
	name, trademark or identification mark of the manufacturer or responsible vendor; *			
	model or type reference; *			
	symbol IEC 60417-5172, for class II appliances only; *			
	IP number according to degree of protection against ingress of water, other than IPX0; *			
	Country of manufacturer; and *			
	Symbol IEC 60417-5180, for class III appliances*			
	Compliance is checked by inspection. *			
	Appliance outlets accessible to the user and socket-outlets accessible to the user*			
	Appliances intended to be supplied from a detachable power supply part to recharge the battery marked with*			
	(a) ISO 7000-0790 (2004-010*			
	(b) IEC 60417-6181 (2016-01) *			
	Class II appliance and class III appliances incorporating a functional earth shall be marked with the symbol IEC 60417-5018 (2011-07) *			
7.2	Warning for stationary appliances for multiple supply *	EL1501-02		

	Warning placed in vicinity of terminal cover*			
7.3	Appliances having a range of rated values and which can be operated without adjustment throughout the range shall be marked with the lower and upper limits of the range separated by a hyphen.*	EL1501-03		
	Appliances having different rated values and which have to be adjusted for use at a particular value by the user or installer shall be marked with the different values separated by anoblique stroke.*			
7.4	Appliances adjustable for different rated voltages or rated frequencies, the voltage or the frequency setting is clearly discernible.*	EL1501-04		
	frequent changes in voltage or frequency setting not required, adjustment of rated voltage or rated frequency determined from wiring diagram. *			
	Wiring diagram may be on the inside of a cover that has to be removed to connect the supply conductors. *			
	Wiring diagram not on a label loosely attached to the appliance. *			
7.5	For appliances marked with more than one rated voltage or with one or more rated voltage ranges, the rated power input or rated current for each of these voltages or ranges shall be marked. However, if the difference between the limits of a rated voltage range does not exceed 10 % of the mean value of the range, the marking for rated power input or rated current may be related to the mean value of the range.*	EL1501-05		
	The upper and lower limits of the rated power input or rated current shall be marked on the appliance so that the relation between input and voltage is clear.*			
7.6	When symbols are used, they shall be as per symbols provided in clause 7.6*	EL1501-06		

	The symbol for nature of supply shall be placed next to the marking for rated voltage.*			
	The symbol for class II appliances shall be placed so that it will be obvious that it is a part of the technical information and is unlikely to be confused with any other marking. *			
	Units of physical quantities and their symbols shall be those of the international standardized system. *			
	Symbols specified in IEC60417 and ISO7000 are used. *			
7.7	Appliances to be connected to more than two supply conductors and appliances for multiple supply shall have a connection diagram fixed to them, unless the correct mode of connection is obvious. *	EL1501-07		
7.8	Except for type Z attachment, terminals used for connection to the supply mains shall be indicated as follows: *	EL1501-08		
	a) terminals intended exclusively for the neutral conductor shall be indicated by the letter N; *			
	b) marking of protective earthing terminals (symbol IEC 60417-5019)			
	c) marking of functional earthing terminals (symbol IEC 60417-5018)			
	These indications shall not be placed on screws, removable washers or other parts which can be removed when conductors are being connected. *			
7.9	Unless it is obviously unnecessary, switches which may give rise to a hazard when operated shall be marked or placed so as to indicate clearly which part of the appliance they control. Indications used for this purpose shall, wherever practicable, be comprehensible without knowledge of languages or national standards. *	EL1501-09		

7.10	The different positions of switches on stationary appliances and the different positions of controls on all appliances shall be indicated by figures, letters or other visual means. *	EL1501-10		
	If figures are used for indicating the different positions, the off position shall be indicated by the figure 0 and the position for a higher value, such as output, input, speed or cooling effect, shall be indicated by a higher figure.*			
	The figure 0 shall not be used for any other indication unless it is positioned and associated with other numbers so that it does not give rise to confusion with the indication of the off position. *			
7.11	Controls intended to be adjusted during installation or in normal use shall be provided with an indication for the direction of adjustment. *	EL1501-11		
7.12	Instructions for safe use provided in hard copy form	EL1501-12		
	Instructions marked on the appliance are visible in normal use			
	Details concerning precautions during user maintenance			
	The instructions the substance of the following:			
	- this appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety			
	- children should be supervised not to play with the appliance			
	For a part of class III construction supplied from a detachable power supply part, the instructions state that the appliance is only to be used with the unit provided			
	Instructions for class III appliances state that it must only be supplied at SELV, unless			
	it is a battery-operated appliance, the battery being charged outside the appliance			

	For appliances for altitudes exceeding 2 000 m, the maximum altitude is stated :			
	The instructions for appliances incorporating a functional earth state that the appliance incorporates an earth connection for functional purposes			
	The instructions for appliances intended to be connected to a supply for battery recharging state a warning to only use an external supply with the described specifications			
	The instructions for appliances intended to be supplied from a detachable power supply part for battery recharging state the type reference of the supply part along with a warning to only use the unit provided with this appliance			
	The instructions for appliances intended for use with batteries using metal-ion chemistries state the normal temperature range for battery charging			
	Meaning of symbol for detachable power supply part explained, unless not used			
7.12.1	If it is necessary to take precautions during installation of the appliance, appropriate details shall be given. *	EL1501-13		
	For an appliance intended to be permanently connected to the water mains and not connected by a hose-set, this is stated			
	If different rated voltages or different rated frequencies are marked, the instructions state what action to be taken to adjust the appliance			
7.12.2	If a stationary appliance is not fitted with a supply cord and a plug, or with other means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under overvoltage category III conditions, the instructions shall state that means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules. *	EL1501-14		

7.12.3	If the insulation of the fixed wiring supplying an appliance for permanent connection to the supply mains can come into contact with parts having temperature rise exceeding 50 K during the test of clause 11, the instructions shall state that the fixed wiring insulation must be protected, for example, by insulating sleeving having an appropriate temperature rating. *	EL1501-15		
7.12.4	The instructions for built-in appliances shall include information with regard to the following: *	EL1501-16		
	a) dimensions of the space to be provided for the appliance; *			
	b) dimensions and position of the means for supporting and fixing the appliance within this space; *			
	c) minimum distances between the various parts of the appliance and the surrounding structure; *			
	d) minimum dimensions of ventilating openings and their correct arrangement; *			
	e) connection of the appliance to the supply mains and the interconnection of any separate components; *			
	f) Necessity to have the plug accessible after installation, unless the appliance incorporates a switch complying with 24.3. *			
	The disconnection may be achieved by having by having the plug accessible or by incorporating a switch in affixed wiring in according to the wiring rules *			
7.12.5	For appliances with type X attachment having a specially prepared cord, the instructions shall contain the substance of the following. *	EL1501-17		
	If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or its service agent. *			

	For appliances with type Y attachment, the instructions shall contain the substance of the following. *	EL1501-18		
	If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard. *			
	For appliances with type Z attachment, the instructions shall contain the substance of the following. *	EL1501-19		
	The supply cord cannot be replaced. If the cord is damaged the appliance should be scrapped. *			
	Replacement cord set instructions, if required according to 22.58*			
7.12.6	The instructions for heating appliances incorporating with a non-self-resetting thermal cut- out that is reset by disconnection of supply mains shall contain substance of following *	EL1501-20		
	CAUTION: in order to avoid inadvertent resetting of thermal cutout this appliance must not be supplied through an external switching device ,such as timer , or connected to circuit that is regularly switched on and off by the utility *			
7.12.7	Instructions for fixed appliances stating how the appliance is to be fixed to its support *	EL1501-21		
7.12.8	Instructions for appliances connected to the water mains shall state *	EL1501-22		
	a)maximum inlet water pressure in pascals; and*			
	b) the minimum inlet water pressure ,in pascals ,if this is necessary for correct operation of the appliance *			
	Instructions for appliance connected to a water by detachable hose sets supplied with the appliance are to be used and that old hose sets applied with the appliance are to be used and that old hose sets should not be reused *			

7.12.9	Instructions specified in 7.12 and from 7.12.1 to 7.12.8 are in hard copy form and appear together before any other instructions supplied with the appliance	EL1501-23		
	Alternatively, these instructions may be supplied with the appliance separately from any functional use booklet			
	They may follow the description of the appliance that identifies parts, or follow the drawings/sketches common to the languages of the instructions			
	They may follow the description of the appliance that identifies parts, or follow the drawings/sketches			
	In addition, instructions are also available in an alternative format such as on a website or on request in a format such as a DVD			
7.13	Instructions and other text required by this standard shall be written in an official language of the country in which the appliance is to be sold. *	EL1501-24		
7.14	The markings required by the standard shall be clearly legible and durable.	EL1501-25		
	Signal words WARNING, CAUTION, DANGER in uppercase having a height as specified			
	Uppercase letter of the text explaining the signal word not smaller than 1,6 mm			
	Moulded in, engraved, or stamped markings either raised above or have a depth below the surface of at least 0,25 mm, unless			
	contrasting colours are used			
	Markings checked by inspection, measurement and rubbing test as specified			
	Markings clearly durable, and on containers that are likely to be cleaned frequently they are not by means of paint or enamel, other than vitreous enamel			
7.15	The markings specified in 7.1 to 7.5 shall be on a main part of the appliance. *	EL1501-26		

	Markings on the appliance shall be clearly discernible from the outside of the appliance but if necessary after removal of a cover. For portable appliances it shall be possible to remove or open this cover without the aid of a tool. *			
	For stationary appliances atleast the name or trade mark or identification mark of the manufacturer or responsible vendor and the model or type reference shall be visible when the appliance is installed as in normal use. These markings may be beneath a detachable cover. Other markings may be beneath a cover only if they are near to the terminals. For fixed appliances, this requirement applies after the appliance has been installed according to the instructions provided with the appliance. *	EL1501-26		
	Indications for switches and controls shall be placed on or near these components. They shall not be placed on parts which can be positioned or repositioned in such a way that the marking is misleading. *	EL1501-27		
	The symbol IEC 60417-5018 placed next to the symbol IEC 60417-5172 or IEC 60417-5180			
	Type reference of detachable power supply part placed next to symbol IEC 60417-6181			
	Marking of outlet load close to appliance outlet or socket-outlet			
7.16	If compliance with this standard depends upon the operation of a replaceable thermal link or fuse link, the reference number or other means for identifying the link shall be marked at such a place that it is clearly visible when the appliance has been dismantled to the extent necessary for replacing the link. *	EL1501-28		
	The requirement does not apply to link which can only be replaced together with a part of the appliance *			

*Total number of Requirements to be observed / inspected = 27
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 02
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1502-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
8	Protection against access to live parts	EL1502-00		
8.1	Appliances shall be constructed and enclosed so that there is adequate protection against accidental contact with live parts.	EL1502-01		
8.1.1	The requirement of 8.1 applies for all positions of the appliance when it is operated as in normal use, and after the removal of detachable parts.	EL1502-02		
	Lamps located behind a detachable cover are not removed, provided that the appliance can be isolated from the supply mains by means of a plug or an all-pole switch. However, during insertion or removal of lamps which are located behind a detachable cover, protection against contact with live parts of the lamp cap shall be ensured.	EL1502-03		
	Test probe B of IEC 61032 is applied without appreciable force, the appliance being in every possible position except that appliances normally used on the floor and having a mass exceeding 40 kg are not tilted. Through openings, the test probe is applied to any depth that the probe will permit and is rotated or angled before, during and after insertion to any position. If the opening does not allow the entry of the probe, the force on the probe in the straight position is increased to 20 N. If the probe then enters the opening, the test is repeated with the probe in the angled position.	EL1502-04		
	It shall not be possible to touch live parts or live parts protected only by lacquer, enamel, ordinary paper, cotton, oxide film, beads, or sealing compound except self-hardening resins with the probe.			

	Use of test probe 18 of IEC 61032 for non-commercial appliances and commercial appliances intended for public access:			
8.1.2	Test probe 13 of IS1401 is applied without appreciable force through openings in class 0 appliances, class II appliances and class II constructions, except for those giving access to lamp caps and live parts in socket-outlets.	EL1502-05		
	The test probe is also applied through openings in earthed metal enclosures having a nonconductive coating such as enamel or lacquer.			
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	EL1502-06		
	For a single switching action obtained by a switching device, requirements as specified			
	For appliances with a supply cord and without a switching device, the single switching action may be obtained by the withdrawal of the plug			
8.1.4	An accessible part is not considered to be live if	EL1502-07		
	a) the part is supplied at safety extra-low voltage, provided that			
	1) for a.c., the peak value of the voltage does not exceed 42.4 V,			
	2) for d.c., the voltage does not exceed 42.4 V, Or			
	b). the part is separated from live parts by protective impedance			
	If protective impedance is used, the current between the part and the supply source shall not exceed 2 mA for d.c., its peak value shall not exceed 0,7 mA for a.c. and	EL1502-08		

	a) for voltages having a peak value over 42,4 V up to and including 450 V, the capacitance shall not exceed 0,1µ F,			
	b) for voltages having a peak value over 450 V up to and including 15 kV, the discharge shall not exceed 45 µC.			
	c) for peak values over 15 kV, the energy in the discharge not exceeding 350 mJ			
8.1.5	Live parts of built-in appliances, fixed appliances and appliances delivered in separate units, shall be protected at least by basic insulation before installation or assembly.	EL1502-09		
8.2	Class II appliances and class II constructions shall be constructed and enclosed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only.	EL1502-10		
	It shall only be possible to touch parts which are separated from live parts by double insulation or reinforced insulation.			
	Use of Test probe 18 of as per cl. 8.1.1 applied to parts that are accessible when operated in normal use	EL1502-11		
8.3	For battery-operated appliances with a functional earth or supply connection, parts within a battery compartment only accessible if:			
	- class I, 0I and II appliances: separated from live parts by double and reinforced insulation			
	- class 0 appliances: separated from live parts by basic insulation			
	- battery compartment of class III construction, and basic insulation in addition to supply at SELV, if limits in 8.1.4 exceeded			

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 12
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1503-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
9	Starting of motor-operated appliances*	EL1503-00		
	Requirements and tests are specified in part 2 when necessary			

*Total number of Requirements to be observed / inspected = 01
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 00
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1504-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
10	Power Input and Current	EL1504-00		
10.1	If an appliance is marked with rated power input, the power input at normal operating temperature shall not deviate from the rated power input by more than the deviation showing table 1.	EL1504-01		
	If the power input varies throughout the operating cycle and its maximum value exceeds twice its arithmetic mean value occurring during a representative period, the power input is the maximum value that is exceeded for more than 10 % of the representative period if this value is greater than the arithmetic mean value,			
	otherwise the power input is the arithmetic mean value			
	In case of doubt, the power input of the motors may be measured separately			
	The deviation for motor-operated appliances applies for combined appliances if the power input of the motors is more than 50 % of the rated power input.			
	If the current varies throughout the operating cycle and its maximum value exceeds twice its arithmetic mean value occurring during a representative period, the current is the maximum value that is exceeded for more than 10 % of the representative period if this value is greater than the arithmetic mean value,			
	Appliance outlets accessible to the user and socket-outlets accessible to the user incorporated in appliances connected to the supply mains and operating at rated voltage are not loaded during test,			

	however, their contribution to the power input is considered to be the marked outlet load per appliance outlet or socket-outlet			
10.2	If an appliance is marked with rated current, the current at normal operating temperature shall not deviate from the rated current by more than the deviation shown in table 2.	EL1504-02		
	The deviation for motor-operated appliances applies for combined appliances if the current of the motors is more than 50 % of the rated current.			
	If the current varies throughout the operating cycle and its maximum value exceeds twice its arithmetic mean value occurring during a representative period, the current is the maximum value that is exceeded for more than 10 % of the representative period if this value is greater than the arithmetic mean value,			
	In case of doubt, the current of the motors may be measured separately			
	Appliance outlets and socket-outlets accessible to the user incorporated in appliances connected to the supply mains and operating at rated voltage are not loaded during test,			
	however, their contribution to the current is considered to be the marked outlet load per appliance outlet or socket-outlet			

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 03
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1505-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
11	Heating	EL1505-00		
11.1	Appliances and their surroundings shall not attain excessive temperatures in normal use.	EL1505-01		
11.2	Hand-held appliances are held in their normal position of use.	EL1505-02		
	Built-in appliances are installed in accordance with the instructions.	EL1505-03		
	Other heating appliances and other combined appliances are placed in a test corner as follows:	EL1505-04		
	a) appliances normally placed on a floor or table in use, are placed on the floor as near to the walls as possible;			
	b) appliances normally fixed to a wall are fixed to one of the walls, as near to the other wall and floor or ceiling as is likely to occur, taking into account the instructions;			
	c) Appliances normally fixed to a ceiling are fixed to the ceiling as near to the walls as is likely to occur, taking into account in the instructions.			
	Other motor-operated appliances are positioned as follows:	EL1505-05		
	a) appliances normally placed on a floor or table in use are placed on a horizontal support;			
	b) appliances normally fixed to a wall are fixed to a vertical support;			
	c) Appliances normally fixed to a ceiling are fixed underneath a horizontal support.			
	For appliances provided with an automatic cord reel, one-third of the total length of the cord is unreeled. the temperature rise of the cord sheath is determined as near to the hub of the reel and also between the two outermost layers of the cord on the reel			

	For cord storage devices, other than automatic cord reels, which are intended to accommodate the supply cord partially while the appliance is in operation,50 cm of the cord is unwound. The temperature rise of the stored part of the cord is determined at the most unfavorable place			
11.3	Temperature rises, other than those of windings, are determined by means of fine-wire thermocouples positioned so that they have minimum effect on the temperature of the part under test.	EL1505-06		
	Temperature rises of windings determined by resistance method, unless windings are non-uniform or if it is difficult to make the necessary connections, in which case the temperature rise is determined by means of thermocouples			
	the windings are non-uniform or it is difficult to make the necessary connections			
11.4	Heating appliances are operated under normal operation and at 1.15 times rated power input.	EL1505-07		
11.5	Motor-operated appliances are operated under normal operation and supplied with the most unfavorable voltage between 0.94 times and 1.06 times the rated voltage.	EL1505-08		
11.6	Combined appliances are operated under normal operation and supplied with the most unfavorable voltage between 0.94 times and 1.06 times the rated voltage.	EL1505-09		
11.7	Appliance operated for a duration corresponding to the most unfavorable conditions of normal use	EL1505-10		
	Appliance outlets and socket-outlets accessible to the user loaded with a resistive load that gives the marked outlet load			
	For appliances incorporating integral batteries or separable batteries not disconnected from the appliance during charging:			

	The fully discharged battery is charged for 1 h, while the appliance is operated continuously performing its intended function			
	The fully discharged battery is charged for 24 h or until it is fully charged, without the appliance performing its intended function			
11.8	During the test, the temperature rises are monitored continuously and shall not exceed the values shown in table 3. However, if the temperature rise of the motor winding exceeds the value specified in table 3 or if there is doubt with regard to the temperature classification of the insulation of the motor, the tests of annex C are carried out.	EL1505-11		
	Protective devices shall not operate and sealing compound shall not flow out.	EL1505-12		

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted =13
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1506-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
12	CHARGING OF METAL-ION BATTERIES	EL1506-00		
	Charging a battery that uses metal-ion chemistry does not cause any cell to exceed its operating region for charging	EL1506-01		
	Fully discharged battery is charged with the charging system indicated in the instructions at an ambient temperature of 20°C ± 5 °C			
	Test repeated at:	EL1506-02		
	a) minimum ambient temperature, if specified to be less than 10 °C by the manufacturer (°C)			
	b) at maximum ambient temperature, if specified to be greater than 40 °C by the manufacturer (°C) :			
	For all individual cells, the voltage, temperature and charging current are monitored :			
	For parallel configuration, analysis used to avoid measuring the individual branch currents,	EL1506-03		
	the test result not exceeding the specified operating region for charging			
	Location of thermocouples for each cell temperature measurement on the outer surface, halfway along the longest dimension of the cell			
	For each cell, the specified operating region for charging specified by the cell manufacturer is not exceeded at the temperature of the cell			

	For batteries where cells are configured in series, the test is repeated with the charge in one battery deliberately imbalanced, the imbalance being introduced into a fully discharged battery by charging one cell to:	EL1506-04		
	a) approximately 50 % of its full charge, or			
	b) less than 50 % of its full charge, if it is demonstrated as specified that this would occur in normal operation			

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 05
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1507-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
13	Leakage current and electric strength at operating temperature	EL1507-00		
13.1	At operating temperature, the leakage current of the appliance shall not be excessive and its electric strength shall be adequate.	EL1507-01		
	The appliance is operated under normal operation for the duration specified in 11.7.			
	Heating appliances are operated at 1.15 times the rated power input.			
	Motor-operated appliances and combined appliances are supplied at 1.06 times rated voltage.			
	Three-phase appliances which, according to the instructions for installation, are also suitable for single- phase supply are tested as single-phase appliances with the three circuits connected in parallel.			
	Protective impedance and radio interference filters are disconnected before carrying out the tests.			
13.2	The leakage current is measured by means of the circuit described in Fig.1 between any pole of the supply and accessible metal parts connected to metal foil having an area not exceeding 20 cm *x* 10 cm which is in contact with accessible surfaces of insulating materials.	EL1507-02		
	For single-phase appliances, the measuring circuit is shown in the following figures:			
	a) if of Class II, see Fig, 2; and			
	b) if other than Class II, *see* Fig. 3			
	For three-phase appliances, the measuring circuit is shown in the following figures:			
	a) if of Class II, *see* Fig. 4; and			
	b) if other than Class II, *see* Fig. 5			

	For three-phase appliances, the leakage current is measured with the switches *a, b* and *c* in the closed position. The measurements are then repeated with each of the switches *a, b* and c open in turn, the other two switches remaining closed. For appliances intended to be connected in star connection only, the neutral is not connected.			
	After the appliance has been operated for a duration as specified in 11.7, the leakage current shall not exceed the following values:			
	a). for Class II appliances: 0.21 mA			
	b). for or Class III appliances:0.5 mA			
	c). for portable appliances Class I: 0.21 mA			
	d). for stationary Class I motor-operated appliances: 3.5 mA			
	e). for stationary Class I : 0.21 mA heating appliances or 0.21mA per kW rated power input of the appliance with a maximum of 1.5 mA, whichever is higher			
	For combined appliances, the total leakage current may be within the limits specified for heating appliances or motor-operated appliances, whichever is the greater, but the two limits are not added			
	If the appliance incorporates capacitors and is provided with a single-pole switch, the measurements are repeated with the switch in the off position			
	If the appliance incorporates a thermal control which operates during the test of II, the leakage current is measured immediately before the control opens the circuit			
13.3	The appliance is disconnected from the supply and the insulation is immediately subjected to a voltage having a frequency of 50 Hz for 1 min, in accordance with IS 2071 (Part 1)	EL1507-03		

	The high-voltage source used for the test is to be capable of supplying a short circuit current $/_s$ between the output terminals after the output voltage has been adjusted to the appropriate test voltage. The overload release of the circuit is not to be operated by any current below the tripping current 7_r. The values of $/_s$ and I_t are given in Table 5 for various high-voltage sources			
	The test voltage is applied between live parts and accessible pans, non-metallic parts being covered with metal foil. For Class II constructions having intermediate metal between live parts and accessible parts, the voltage is applied across the basic insulation and the supplementary insulation			

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 04
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1508-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
14	Transient overvoltage	EL1508-00		
	Appliances shall withstand the transient over voltages to which they may be subjected	EL1508-01		
	The impulse test voltage has a no-load wave shape corresponding to the 1.2/50 us standard impulse specified in IS 2071 (Part 1). It is supplied from a generator having a virtual impedance of 12 ohm. The impulse test voltage is applied three times for each polarity with intervals of at least 1s			
	The impulse test voltage is specified in Table 6 for rated impulse voltages given in Table 15			

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 02
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1509-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
15	Moisture resistance	EL1509-00		
15.1	The enclosure of the appliance shall provide the degree of protection against moisture in accordance with the classification of the appliance	EL1509-01		
	Appliances other than those classified IPX0 are subjected to the tests according to following clauses of IS 12063 as mentioned below	EL1509-02		
	a) IPX1 appliances as described in 14.2.1;			
	b) IPX2 appliances as described in 14.2.2;			
	c)I PX3 appliances as described in 14.2.3a;			
	d) IPX4 appliances as described in 14.2.4a;			
	e) IPX5 appliances as described in 14.2.5;			
	f) IPX6 appliances as described in 14.2.6;			
	g) IPX7 appliances as described in 14.2.7. For this test the appliance is immersed in water containing approximately 1 % NaCl.			
	Water valves containing live parts and that are incorporated in external hoses for connection of in appliance to the water mains are subjected to the test specified for IPX7 appliances	EL1509-03		
15.1.2	Hand-held appliances are turned continuously through the most unfavorable positions during the test. Built-in appliances are installed in accordance with the instructions	EL1509-04		
	Appliances with an automatic cord reel are tested according to 15.1.1 with the supply cord unreeled, coiled and reeled again as specified,	EL1509-05		

	for fixed appliances mounted on the wall or ceiling, the cord is dropped from the minimum height as specified in the instructions before being coiled	EL1509-06		
	Appliances normally used on the floor or table are placed on a horizontal unperforated support having a diameter of twice the oscillating tube radius minus 15 cm.	EL1509-07		
	Appliances normally fixed to a wall and appliances with pins for insertion into socket-outlets are mounted as in normal use in the centre of a wooden board having dimensions which arc 15 ±5 cm in excess of those of the orthogonal projection of the appliance on the board. The wooden board is placed at the centre of the oscillating tube	EL1509-08		
	For IPX3 appliances, the base of wall-mounted appliances is placed at the same level as the pivot axis of the oscillating tube	EL1509-09		
	For IPX4 appliances, the horizontal centre line of the appliance is aligned with the pivot axis of the oscillating tube. However, for appliances normally used on the floor or table, the movement is limited to two times 90" from the vertical for a period of 5 min, the support being placed at the level of the pivot axis of the oscillating lube	EL1509-10		
	If the instructions for wall-mounted appliances state mat the appliance is to be placed close to the floor level and specifies a distance, a board is placed under the appliance at that distance. The dimensions of the board are 15 cm more than the horizontal projection of the appliance	EL1509-11		

	Appliances normally fixed to a ceiling are mounted underneath a horizontal unperforated support that is constructed to prevent water spraying onto its top surface. The pivot axis of the oscillating tube is located at the same level as the underside of The support and aligned centrally with the appliance. The spray is directed upwards	EL1509-12		
	For IPX4 appliances, the movement of the tube is limited to two times 90" from the vertical for a period of 5 min.	EL1509-13		
	Appliances with type X attachment, except those: having a specially prepared cord, are fitted with the lightest permissible type of flexible cord of the smallest cross-sectional area specified in Table 13	EL1509-14		
	Detachable parts are removed and subjected, if necessary, to the relevant treatment with the main part. However, if the instructions slate the a part has to be removed for user maintenance and a tool is needed, this part is not removed	EL1509-15		
15.2	Appliances subject lo spillage of liquid in normal use shall be constructed so that such spillage does not affect their electrical insulation	EL1509-16		
	Appliances with type X attachment, except those having a specially prepared cord, are fitted with the lightest permissible type of flexible cord of the smallest cross-sectional area specified in Table 13	EL1509-17		
	Appliances incorporating an appliance inlet arc tested with or without an appropriate connector in position, whichever is most unfavourable	EL1509-18		
	Detachable parts are removed			
	The liquid container of the appliance is completely filled with water containing approximately 1 percent NaCl and a further quantity, equal to 15 percent of the capacity of the container or 0.25 I, whichever is the "renter, is poured in steadily over a period of 1 min	EL1509-19		

	The appliance shall then withstand the electric strength test of 16.3 and inspection shall show that there is no trace of water on insulation that could result in a reduction of clearances or creepage distances below the values specified in 29			
15.3	Appliances shall be proof against humid conditions that may occur in normal use	EL1509-20		
	Appliances that were subjected to the tests of 15.1 or 15.2 are placed in normal ambient conditions for24 h	EL1509-21		
	Cable entries, if any, are left open. If knock-outs are provided, one of them is opened. Detachable parts are removed and subjected, if necessary, to the humidity Test with the main part.			
	The humidity test is carried out for 48 h in a humidity cabinet containing air with a relative humidity not less than 90 percent. The temperature of the air is maintained within I K of any convenient value t between 15°C and 35°C. Before being placed in the humidity cabinet, the appliance is brought to a temperature oft °C	EL1509-22		
	The appliance shall then withstand the tests of 16 in the humidity cabinet or in the room in which the appliance was brought to the prescribed temperature after reassembly of those parts that may have been removed			

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 23
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1510-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
16	Leakage current and electric strength	EL1510-00		
16.1	The leakage current of the appliance shall not be excessive and its electric strength shall be adequate	EL1510-01		
	Protective impedance is disconnected from live parts before carrying out the tests			
	The tests are carried out on the appliance at room temperature and not connected to the supply mains.			
16.2	An ac test voltage is applied between live parts and accessible metal parts that are connected to metal foil having an area not exceeding 20 cm x 10 cm in contact with accessible surfaces of insulating materials The test voltage is.	EL1510-02		
	a) 1,06 times rated voltage, for single-phase appliances;			
	b) 1,06 times rated voltage, divided by 3 , for three-phase appliances			
	The leakage current is measured within 5 s after the application of the test voltage			
	The leakage current shall not exceed the following values:			
	a)for class II appliances and for parts class II construction 0.25 mA			
	b)for class 0, class 0I & class III appliances 0.5 mA			
	c) for portable class I appliances 0.75 mA			
	d)for stationary class I motor-operated appliances 3.5 mA			
	e)for stationary class I heating appliances 0.75 mA or 0.75 mA per kW rated power input of the appliance with a maximum of 5 mA, whichever is higher			

	The values specified above are doubled if all controls have an off position in all poles. They are also doubled if			
	a) the appliance has no control other than a thermal cut-out, or			
	b) all thermostats, temperature limiters and energy regulators do not have an off position, or			
	c) The appliance has radio interference filters. In this case the leakage current with the filter disconnected shall not exceed the limits specified.			
16.3	Immediately after the test of 16.2, the insulation is subjected to a voltage of substantially sinusoidal waveform having a frequency of 50 Hz or 60 Hz for 1 min. The values of the test voltage for different types of insulation are given in table 7.	EL1510-03		
	Test voltage applied between the supply cord and inlet bushing and cord guard and cord anchorage as specified			
	No breakdown during the tests			

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 04
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

.....
(Approving Authority)

EL 1511-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
17	Overload protection of transformers and associated circuits	EL1511-00		
	Appliances incorporating circuits supplied from a transformer shall be constructed so that in the event of short circuits which are likely to occur in normal) use, excessive temperatures do not occur in the transformer or in the circuits associated with the transformer	EL1511-01		
	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), basic insulation is not short circuited			
	The temperature rise of the insulation of the conductors of safety extra-low voltage circuits shall not exceed the relevant value specified in Table 3 by more than 15 K	EL1511-02		
	The temperature of windings shall not exceed the values specified in Table 8. However, these limits do not apply to fail-safe transformers complying with 15.5 of 1S/IEC 61558-1:2017	EL1511-03		

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 04
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1512-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
18	Endurance	EL1512-00		
	Requirements and tests are specified in part 2 when necessary			

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 01
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1513-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
19	Abnormal operations	EL1513-00		
19.1	Appliances shall be constructed so that because of abnormal or careless operation, the risk of fire, mechanical damage impairing safety or protection against electric shock is obviated as far as is practicable	EL1513-01		
	Electronic circuits shall be designed and applied so that a fault condition will not render the appliance unsafe with regard to electric shock, fire hazard, mechanical hazard or dangerous malfunction	EL1513-02		
	Appliances incorporating heating elements are subjected to the tests of 19.2 and 19.3. In addition, such appliances having a control that limits the temperature during 11 are subjected to the tests of 19.4 und, when applicable, to the test of 19.5. Appliances incorporating PTC heating elements are also subjected to the test of 19.6.	EL1513-03		
	Appliances incorporating motors are subjected to the tests of 19.7 to 19.10, as applicable	EL1513-04		
	Appliances incorporating electronic' circuits are also subjected to the tests of 19.11 and 19.12, as applicable	EL1513-05		
	Unless otherwise specified, only one abnormal condition is simulated at any one time			
	Unless otherwise specified, compliance with the tests of this clause is checked as described in 19.13			
	Appliances incorporating contactors or relays subjected to the test of 19.14, being carried out before the tests of 19.11	EL1513-06		
	Appliances incorporating voltage selector switches subjected to the test of 19.15	EL1513-07		

	Appliances having a mains connection and replaceable batteries subjected to the test of 19.16	EL1513-08		
	Appliances incorporating rechargeable batteries that use metal-ion chemistries subjected to the test of 19.17	EL1513-09		
	If a heating element or an intentionally weak part becomes open-circuited, the relevant test is repeated on a second sample, and	EL1513-10		
	that same part on the second sample does also become permanently open-circuited in the second test			
19.2	Appliances with heating elements are tested under the conditions specified in 11 but with restricted heat dissipation. The supply voltage, determined prior to the Test, is that required to provide a power input of 0.85 times rated power input under normal operation when the power input has stabilized. This voltage is maintained throughout the test	EL1513-11		
19.3	The Test of 19.2 is repeated but with a supply voltage, determined prior to the test, equal to that required to provide a power input of 1.24 times rated power input under normal operation when the power input has stabilized. This voltage is maintained throughout the test	EL1513-07		
19.4	The appliance is tested under the conditions specified in 11. Any control that limits the temperature during the test of 11 is short-circuited	EL1513-08		
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	EL1513-09		
	This test is repeated with the polarity of the supply to the appliance reversed and with the other end of the element connected to the sheath	EL1513-10		

	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			
19.6	Appliances with PTC heating elements are supplied at rated voltage until steady conditions with regard to power input and temperature are established	EL1513-11		
	The working voltage of the PTC heating element is increased by 5 percent and the appliance is operated until steady conditions are re-established. The voltage is then increased in similar steps until 1.5 times working voltage is reached, or until the PTC heating element ruptures, whichever occurs first	EL1513-12		
19.7	The appliance is operated under stalled conditions by	EL1513-13		
	a) locking the rotor if the locked rotor torque is smaller than the full load torque;			
	b) locking moving parts of other appliances			
	Appliances incorporating motors and having capacitors in the circuit of an auxiliary winding are operated with the rotor locked, the capacitors being open-circuited one at a time. The Test is repeated with the capacitors short-circuited one at a time unless they are of class S2 or S3 of IEC 60252-1:2010/AMD1:2013	EL1513-14		
	For each of the tests, appliances provided with a timer or programmer are supplied at rated voltage for a period equal to the maximum period allowed by the timer or programmer	EL1513-15		
	Other appliances are supplied at rated voltage for a period			
	a) of 30 s for	EL1513-16		
	1) hand-held appliances,			
	2) appliances that have to be kept switched on by hand or foot, and appliances that are continuously loaded by hand;			

	b) of 5 min for other appliances that are operated while attended;	EL1513-17		
	c) until steady conditions are established, for other appliances	EL1513-18		
19.8	One phase of appliances incorporating three-phase motors is disconnected. The appliance is then operated under normal operation and supplied at rated voltage for the period specified in 19.7.	EL1513-19		
19.9	A running overload test is carried out on appliances incorporating motors that are intended to be remotely or automatically controlled or liable to be operated continuously	EL1513-20		
	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			
	During the test the winding temperature shall not exceed	EL1513-21		
	a) 140 °C, for class A winding insulation;			
	b) 155 °C, for class E winding insulation			
	c) 165 °C, for class B winding insulation;			
	d) 180 °C, for class F winding insulation;			
	e) 200 °C, for class H winding insulation;			
	f) 220 °C, for class 200 winding insulation;			
	g) 240 °C, for class 220 winding insulation;			
	h) 270 °C, for class 250 winding insulation.			
19.10	Appliances incorporating series motors are operated with the lowest possible load and supplied at 1.3 times rated voltage for 1 min.	EL1513-22		

19.11	Electronic circuits are checked by evaluation of the fault conditions specified in 19.11.2 for all circuits or parts of circuits, unless they comply with the conditions specified in 19.11.1.	EL1513-23		
	Appliances incorporating a protective electronic circuit are subjected to the tests of 19,11.3 and19.11.4	EL1513-24		
	Appliances having a switch with an off position obtained by electronic disconnection, or a switch that can place the appliance in a stand-by mode, are subjected to the tests of 19.11.4	EL1513-25		
	If the safety of the appliance under any of the fault conditions depends on the operation of a miniature fuse-link complying with IS/IEC 60127, the test of 19,12 is carried out	EL1513-26		
	During and after each test, the temperature of the windings shall not exceed the values specified in Table 8. However, these limits do not apply to fail-safe transformers complying with 15.5 of IS 1401. The			
	The appliance shall comply with the conditions specified in 19.13. Any current flowing through protective impedance shall not exceed the limits specified in 8.1.4			
	If a conductor of a printed circuit board becomes open- circuited, the appliance is considered to have withstood the particular test, provided all three of the following conditions are met	EL1513-27		
	a)the base material of the printed circuit board withstands the test of annex E,			
	b)any loosened conductor does not reduce clearances or creepage distances between live parts and accessible metal parts below the values specified in clause 29,			
	c)the appliance withstands the tests of 19.11.2 with the open-circuited conductor bridged			

19.11.1	Fault conditions (a) to (g) specified in 19.11.2 are not applied to circuits or parts of circuits when both of the following conditions are met	EL1513-28		
	a)the electronic circuit is a low-power circuit as described below;			
	b) 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.			
19.11.2	The following fault conditions are considered and, if necessary, applied one at a time, consequential faults being taken into consideration:			
	a) short circuit of functional insulation if clearances or creepage distances are less than the values specified in clause 29;	EL1513-29		
	b) open circuit at the terminals of any component;	EL1513-30		
	c) short circuit of capacitors, unless they comply with 60384-14:2013/AMD:2016	EL1513-31		
	d) short circuit of any two terminals of an electronic component, other than an integrated circuit. This fault condition is not applied between the two circuits of an optocoupler;	EL1513-32		
	e) failure of triacs in the diode mode;	EL1513-33		
	f) failure of microprocessors and integrated circuits	EL1513-34		
	g) failure of an electronic power switching device	EL1513-35		
	Fault condition 19.11.2 (f) is applied to encapsulated and similar components, if the circuit cannot be assessed by other methods	EL1513-36		
	Positive temperature coefficient resistors are not short- circuited if they are used within the manufacturer's specification. However, PTC-S thermistors are short- circuited	EL1513-37		

	In addition, 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	EL1513-38		
	For simulation of the fault conditions, the appliance is operated under the conditions specified in 11 but supplied at rated voltage	EL1513-39		
	When any of the fault conditions are simulated, the duration of the test is			
	a) as specified in 11.7 but only for one operating cycle and only if the fault cannot be recognized by the user, for example, a change in temperature;	EL1513-40		
	b) as specified in 19.7, if the fault can be recognized by the user, for example, when the motor of a kitchen machine stops	EL1513-41		
	c) until steady conditions are established, for circuits continuously connected to the supply mains, for example, stand-by circuits	EL1513-42		
	In each case, the test is ended if interruption of the supply occurs within the appliance			
	Cathode-to-anode circuit of the magnetron is open-circuited and short-circuited in turn, with appliance supplied at standard specified voltage	EL1513-43		
	Any cord between a battery-operated appliance consuming more than 15 W and the detachable power supply part short-circuited as specified	EL1513-44		
19.11.3	If the appliance incorporates a protective electronic circuit which operates to ensure compliance with 19, the relevant test is repeated with a single fault simulated, as indicated in (a) to (g) of 19.11.2,	EL1513-45		
	The temperature of windings not exceeding the values specified in Table 8. Only appliances that allow pre-selected start time and those operating with a keep-warm function are considered to be appliances operated until steady conditions	EL1513-46		

	During the test the microwave leakage shall not exceed 100W/m^2 measured in accordance with clause 32 but with the load specified for each sub clause. The appliance shall comply with clause 32 after the tests.			
	If the appliance is able to operate after the fault in the protective electronics circuit is incorporated, then the appliance is further tests as follows.	EL1513-47		
	For appliances for continuous operation the appliance is operated until steady conditions are reached, then the relevant test of clause 19 is repeated	EL1513-48		
	Other appliances are operated for one cycle of operation. Then the relevant test of clause 19 is repeated	EL1513-49		
19.11.4	Appliances having a device with an off position obtained by electronic disconnection, or a device that can be placed in the stand-by mode, are subjected to the tests of 19.11.4.1 to 19.11.4.7. The tests are carried out with the appliance supplied at rated voltage, the device being set in the off position or in the stand-by mode.	EL1513-50		
	Appliances incorporating a protective electronic circuit are subjected to the tests of 19.11.4.1 to 19.11.4.7. The tests are carried out after the protective electronic circuit has operated during the relevant tests of 19 except 19.2, 19.6 and 19.11.3. However, the tests for electromagnetic phenomena are not applied to protective electronics circuits that operate during the test of 19.7 in appliance that are use while attended.	EL1513-51		
19.11.4.1	The appliance is subjected to electrostatic discharges in accordance with IEC 61000-4-2, test level 4	EL1513-52		
19.11.4.2	The appliance is subjected to radiated fields in accordance with IEC 61000-4-3, at frequency ranges as specified	EL1513-53		

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	EL1513-54		
19.11.4.4	The power supply terminals of the appliance subjected to voltage surges in accordance with IEC 61000-4-5 as specified	EL1513-55		
	An open circuit test voltage of 2 kV is applicable for the line-to-line coupling mode			
	An open circuit test voltage of 4 kV is applicable for the line-to-earth coupling mode			
	Earthed heating elements in class I appliances disconnected			
	For appliances having surge arresters incorporating spark gaps, tests repeated at 95 % of the flashover voltage			
19.11.4.5	The appliance is subjected to injected currents in accordance with IEC 61000-4-6, test level 3 being applicable. During the test, all frequencies Between 0.15 MHz to 80 MHz are covered. NOTE — The dwell time for each frequency is to be sufficient to observe a Possible malfunction of the protective electronic circuit.	EL1513-56		
19.11.4.6	Appliances having a rated current not exceeding 16 A are subjected to the class 3 voltage dips and interruptions in accordance with IEC 61000-4-11:2020	EL1513-57		
19.11.4.7	The appliance is subjected to mains signals in accordance with IEC 61000-4-13:2002 including IEC 61000-4-13:2002/AMD1:2009 and IEC 61000-4-13:2002/AMD2:2015, test level class 2	EL1513-58		
19.11.4.8	The appliance is operated under normal operation and supplied at rated voltage (V)			
	After 60 s the power supply is reduced to a level such that the appliance ceases to respond or parts controlled by the programmable component cease to operate			

19.12	If safety of the appliance depends upon the operation of a miniature fuse-link complying with IS/IEC 60127 during any of the fault conditions specified in 19.11.2, the test is repeated but with the miniature fuse-link replaced by an ammeter. If the current measured	EL1513-59		
	a). does not exceed 2.1 times the rated current of the fuse-link, the circuit is not considered to be adequately protected and the test is carried out with the fuse-link short-circuited			
	b) is at least 2.75 times the rated current of the fuse-link, the circuit is considered to be adequately protected.			
	c) is between 2.1 times and 2.75 times the rated current of the fuse-link, the fuse link is short-circuited and the test is carried out			
	1) for the relevant period or for 30 min, whichever is the shorter, for quick acting fuse links;			
	2) acting fuse-links; and			
	3) for the relevant period or for 2 min, whichever is the shorter, for time lag fuse- links.			
19.13	During the tests the appliance shall not emit flames, molten metal, or poisonous or ignitable gas in hazardous amounts and temperature rises shall not exceed the values shown in Table 9	EL1513-60		
	After the tests and when the appliance has cooled to approximately room temperature, the enclosure shall not have deformed lo such an extent that compliance with 8 is impaired and the appliance shall comply with 20.2, if it can still be operated			

	When the insulation, other than that of Class III appliances, has cooled down to approximately room temperature, it shall withstand the electric strength test of 16.3, the test voltage, however, being as specified in Table 4			
	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	EL1513-61		
	For appliances which are immersed in or filled with conducting liquid in normal use, the appliance is immersed in or filled with water for 24 h before the electric strength test is carried out	EL1513-62		
	The appliance shall not undergo a dangerous malfunction, and there shall be no failure of protective electronic circuits if the appliance is still operable			
	For accessible safety extra-low voltage outlets, connectors, or USB outlets, no increase of the no-load output voltage by more than 3 V or 10 % of the voltage in normal use, whichever higher, with a maximum/peak of 42,4 VDC/VAC	EL1513-63		
	Appliances tested with an electronic switch in the off position, or in the stand-by mode, shall not become operational			
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			
	For a relay or contactor with more than one contact, all contacts are short-circuited at the same time			
	A relay or contactor operating only to ensure the appliance is energized for normal use is not short-circuited			
	If more than one relay or contactor operates in clause 11, they are short-circuited in turn			

	If the appliance has several modes of operation, the tests are carried out with the appliance operating in each mode, if necessary			
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			
19.16	Appliances having mains connection and replaceable batteries supplied at rated voltage and operated under normal operation but with batteries removed or in any position allowed by construction			
19.17	For battery-operated appliances incorporating a battery using metal-ion chemistry, the battery system is operated according to the instructions and tested under the following conditions, duration as specified			
	a) series configured battery:			
	- imbalance introduced into fully discharged battery by charging one cell to the percentage of being fully charged applied during the test of Clause 12;			
	- single cell or parallel only configured battery: fully discharged			
	b) series configured battery: imbalance introduced as specified and fully charged, if the test of clause 12 was conducted with an imbalance of less than 50 % and if a single fault in the circuitry results in the loss of maintaining balance			
	c) series configured battery: cells at 50 % of full charge, except one which is shortened, battery then fully charged			

	d) fully charged battery connected to the charging system: short circuit introduced to the charging system as specified to produce the most unfavourable results, and for a charging system with a cord connecting to the battery, short circuit introduced at a point producing the most adverse effects; resistance of short circuit not exceeding 10 mΩ			
	No explosion or ignition of the battery during or after the test			
	Voltage on any cell not exceeding upper limit charging voltage by more than 150 mV, unless			
	charging system permanently disabled from recharging battery, checked as specified			
	Recharging considered to be permanently disabled, if:			
	a) battery discharged to approximately 50 % of full charge, by using the battery-operated appliance tested (in case of an integral battery), or			
	By using a new sample of the battery-operated appliance (in case of a detachable and separable battery)			
	a) attempt made to recharge battery normally			
	b)no charging current after 10 min or after 25 % of the nominal capacity has been delivered, whichever occurs first			

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 64
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1514-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
20	Stability and mechanical hazards	EL1514-00		
	Appliances, other than fixed appliances and handheld appliances, intended to be used on a surface such as the floor or a table shall have adequate stability			
	The appliance is placed in any normal position of use on a plane inclined at an angle of 10° to the horizontal, the supply cord resting on the inclined plane in the most unfavorable position. However, if part of an appliance comes into contact with the horizontal supporting surface when the appliance is tilted through an angle of 10°, the appliance is placed on a horizontal support and tilted in the most unfavorable direction through an angle of 10°.	EL1514-01		
	Appliances provided with doors are tested with the doors open or closed, whichever is the more unfavourable	EL1514-02		
	Appliances intended to be filled with liquid by the user in normal) use are tested empty or filled with the most unfavourable quantity of water up to the capacity indicated in the instructions	EL1514-03		
	The appliance shall not overturn			
	The test is repeated on appliances with heating elements with the angle of inclination increased to 15°. If the appliance overturns in one or more positions, it is subjected to the tests of 11 in each of these overturned positions.	EL1514-04		
	During this test, temperature rises shall not exceed the ; values shown in Table 9			
20.2	Moving parts of appliances shall, as far as is compatible with the use and working of the appliance, be positioned or enclosed to provide adequate protection against personal injury in normal use.	EL1514-05		

	Protective enclosures, guards and similar parts shall be non-detachable parts and shall have adequate mechanical strength.	EL1514-06		
	The unexpected reclosure of self-resetting thermal cut-outs and overcurrent protective devices shall not cause a hazard.	EL1514-07		
	Compliance is checked by inspection, by the tests of 21.1 and by applying a force not exceeding 5N by means of a test probe that is similar to test probe B of IEC 61032 but having a circular stop face with a diameter of 50 mm, instead of the non-circular face and applying test probe 18 of IEC 61032 with a force not exceeding 2.5N. Test probe 18 is not applied to appliances for commercial use unless they are intended to be installed in an area open to public	EL1514-08		
	For appliances provided with movable devices such as those intended for varying the tension of belts, the least with the test probe is carried out with these devices adjusted to the most unfavorable position within their range of adjustment. If necessary, belts are removed. It shall not be possible to touch dangerous moving parts with this test probe.	EL1514-09		

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 10
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1515-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
21	Mechanical strength	EL1515-00		
21.1	Appliances shall have adequate mechanical strength and be constructed to withstand such rough handling that may be expected in normal use	EL1515-01		
	Checked by applying 3 blows to every point of the enclosure likely to be weak, in accordance with test Ehb of IEC 60068-2-75, spring hammer test, with an impact energy of 0,5 J	EL1515-02		
	The appliance is rigidly supported and three blows, having an impact energy of 0.5 J, are applied to every point of the enclosure that is likely to be weak	EL1515-03		
	If necessary, the blows are also applied to handles, levers, knobs and similar parts and to signal lamps and their covers but only if the lamps or covers protrude from the enclosure by more than 10 mm or if their surface area exceeds 4 cm^2. Lamps within the appliance and their covers are only tested, if they are likely to be damaged in normal use	EL1515-04		
	After the test, the appliance shall show no damage that could impair compliance with this standard and compliance with 8.1, 15.1 and clause 29 shall not be impaired. In case of doubt, supplementary insulation and reinforced insulation are subjected to the electric strength test of 16.3	EL1515-05		
	If there is doubt as to whether a defect has occurred by the application of the preceding blows, this defect is neglected and the group of three blows is applied to the same place on anew sample which shall then withstand the test.	EL1515-06		

	For appliance and parts of appliances having pins or insertion into mains socket-outlets, compliance is checked by subjecting the part of the appliances incorporating the pins to the test, free fall repeated, procedure 2, of IEC 60068-2-31. Note: The height of the fall is 500mm The number of falls is	EL1515-07		
	a) 100, if the mass of the part does not exceed 250g			
	b) 50, if the mass of the part exceeds 250g			
	After the tests the appliance shall show no damage that could impair compliance with this standard and compliance with 8.1, 15.1 and clause 29 shall not be impaired			
21.2	Accessible parts of solid insulation shall have sufficient strength to prevent penetration by sharp implements.	EL1515-08		
	Compliance is checked by subjecting the insulation to the following test, unless the thickness of supplementary insulation is at least 1 mm and that of reinforced insulation is at least 2 mm	EL1515-09		

	The insulation is raised to the temperature measured during the least of II. The surface of the insulation is then scratched by means of a hardened steel pin, the end of which has the form of a cone with an angle of 40°, Its tip is rounded with a radius of 0.25 ± 0.02 mm. The pin is held at an angle of 80° to 85° to the horizontal and loaded so that the force exerted along its axis is 10 ± 0.5 N. These scratches are made by drawing the pin along the surface of the insulation -at a speed of approximately 20 mm/s. Two parallel scratches are made. They are spaced sufficiently apart so that they are not affected by each other, their length covering approximately 25 percent of the length of the insulation. Two similar scratches are made at 90“ to the first pair without crossing them	EL1515-10		
	The test fingernail of Fig. 8 is then applied to the scratched surface with a force of approximately 10 N. No further damage, such as separation of the material, shall occur. The insulation shall then withstand the electric strength test of 16.3 The hardened steel pin is then applied perpendicularly with a force of 30 ± 0.5 N to an unscratched part of Ihe surface. The insulation shall then withstand the electric strength test of 16.3	EL1515-11		
21.3	Appliances with pins for insertion into socket-outlets with a rotating plug part are provided with a mechanical stop to prevent rotation having adequate mechanical strength and constructed to withstand rough handling	EL1515-12		
	Application of a torque of 2 Nm for 1 min does not result in rotation of the plug part after rotating it until the mechanical stop prevents further rotation, both directions checked	EL1515-13		

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 14
Total No. of Applicable Tests = 00
No. of testsfor which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1516-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
22	Construction	EL1516-00		
22.1	If the appliance is marked with the first numeral of the IP system, the relevant requirements of IS 12063 shall be fulfilled	EL1516-01		
22.2	For stationary appliances, means shall be provided to ensure all-pole disconnection from the supply mains. Such means shall be one of the following *	EL1516-02		
	a) a supply cord fitted with a plug.	EL1516-03		
	b)a switch complying with 24.3;	EL1516-04		
	c) a statement in the instructions that a disconnection incorporated in the fixed wiring is to be provided.	EL1516-05		
	d) an appliance inlet.	EL1516-06		
	Single – pole switches, and single – pole protective that disconnect heating elements from supply mains, in single – phase, permanently connected Class I appliance shall be connected to the phase conductor.	EL1516-07		
22.3	Appliances with pins for insertion into socket- outlets shall not impose undue strain on these socket- outlets. The means for retaining the pins shall withstand the forces to which the pins arc likely to be subjected in normal use	EL1516-08		
	The torque that has to be applied to maintain the engagement face of the socket-outlet in the vertical plane shall not exceed 0.25 Nm	EL1516-09		

	A new sample of the appliance is firmly held so that the retention of the pins is not affected. The appliance is placed in a healing cabinet for 1 h at a temperature of 70 ± 2 "C. The appliance is then removed from the heating cabinet and a pull force of 50 N is immediately applied for I min to each pin along their longitudinal axes	EL1516-10		
	When the appliance has cooled down to room .' temperature the pins shall not have been displaced by more than 1 mm	EL1516-11		
	Each pin is then subjected in turn to a torque of 0.4 Nm, which is applied for I min in each direction. The pins shall not rotate unless rotation does not impair compliance with this standard	EL1516-12		
22.4	Appliances for heating liquids and appliances causing undue vibration shall not be provided with pins for insertion into socket-outlets*	EL1516-13		
22.5	Appliances intended to be connected to the supply mains by means of a plug shall be constructed so that in normal use there is no risk of electric shock from charged capacitors when the pins of the plug are touched	EL1516-14		
	The appliance is supplied at rated voltage. Any switch is then placed in the off position and the appliance is disconnected from the supply mains at the instant of voltage peak. One second after disconnection, the voltage between the pins of the plug is measured with an instrument that does not appreciably affect the value to be measured	EL1516-15		
	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	EL1516-16		
	The test for measuring the voltage between the pins of the plug is then repeated three times, voltage not exceeding 34 V (V)	EL1516-17		

22.6	Appliances shall be constructed so that their electrical insulation cannot be affected by water that could condense on cold surfaces or by liquid that could leak from containers, hoses, couplings and similar parts of the appliance. The electrical insulation of Class II appliances and Class II constructions shall not be affected if a hose ruptures or a seal leaks	EL1516-18		
	Drops of coloured water solution are applied by a syringe to parts inside the appliance where leakage of a liquid could occur and affect electrical insulation. The appliance is in operation or at rest, whichever is the more unfavourable	EL1516-19		
	After this test, inspection shall show that there is no trace of liquid on windings or insulation that could result in a reduction of creepage distances below the values specified in 29.2			
22.7	Appliances containing liquid or gases in normal use or having steam-producing devices shall incorporate adequate safeguards against the risk of excessive pressure	EL1516-20		
22.8	For appliances having compartments to which access can be gained without the aid of a tool and that are likely to be cleaned in normal use, the electrical connections shall be arranged so that they are not subject to pulling during cleaning	EL1516-21		
22.9	Appliances shall be constructed so that parts such as insulation, internal wiring, windings, commentators and slip rings are not exposed to oil, grease or similar substances, unless the substance has adequate insulating properties so that compliance with the standard is not impaired	EL1516-22		
22.10	It shall not be possible to reset voltage- maintained non-self-resetting thermal cut-outs by (he operation of an automatic switching device incorporated within the appliance.*	EL1516-23		

	Reset buttons of non-self-resetting controls shall be located or protected so that their accidental resetting is unlikely to occur if this could result in a hazard*	EL1516-24		
22.11	Non-detachable parts that protect against access to live parts, moisture or contact with moving parts shall be flexed in a reliable manner and withstand the mechanical stress occurring during normal use. Snap- in devices used for fixing such parts shall have an obvious locked position. The fixing properties of snap- in devices used in parts that are likely to be removed during installation or servicing shall be reliable	EL1516-25		
	Parts that are likely to be removed during installation or servicing are disassembled and assembled 10 times before the test is carried out			
	The test is carried out at room temperature. However, if compliance may be affected by the temperature of the appliance, the Test is also carried out immediately after it has been operated under the condition specified in 11	EL1516-26		
	The test is applied to all parts that are likely to be detachable whether or not they are fixed by screws, rivets or similar parts	EL1516-27		
	A force is applied without jerks for 10 s in the most unfavourable direction to parts likely to be weak. The force is as follows	EL1516-28		
	a) push force, 50 N;			
	b) pull force:			
	if the shape of the part is such that the fingertips cannot easily slip off, 50 N	EL1516-29		
	if the projection of the part that is gripped is less than 10 mm in the direction of removal, 30 N.	EL1516-30		
	The push force is applied by test probe 11 of IS 1401	EL1516-31		

	The pull force is applied by a suitable means, such as a suction cup, so that the test results are not affected. While the force is being applied, the test fingernail of figure 7 is inserted in any aperture or joint with a force of 10 N. The fingernail is then slid sideways with a force of 10 N but is not twisted or used as a lever	EL1516-32		
	If the shape of the part is such that an axial pull is unlikely, the pull force is not applied but the test fingernail is inserted in any aperture or joint with a force of 10 N and is then pulled for 10 s by means of the loop with a force of 30 N in the direction of removal	EL1516-33		
	If the part is likely to be twisted, the following torque is applied at the same time as the pull or push force	EL1516-34		
	a)2 Nm, for major dimensions up to 50 mm	EL1516-35		
	b) 4 Nm, for major dimensions over 50 mm	EL1516-36		
	This torque is also applied when the test fingernail is pulled by means of the loop	EL1516-37		
	If the projection of the part which is gripped is less than 10 mm, the torque is reduced by 50 %.	EL1516-38		
	Parts shall remain in the locked position and not become detached			
22.12	Handles, knobs, grips, levers and similar parts shall be fixed in a reliable manner so that they will not work loose in normal use if loosening could result in a hazard. If these parts are used to indicate the position of switches or similar components, it shall not be possible to fix them incorrectly if this could result in a hazard			
	Compliance is checked by inspection, by manual test and by trying to remove the part by applying an axial force of	EL1516-39		
	a) 15 N, if an axial pull is unlikely to be applied in normal use;	EL1516-40		

	b) 30 N, if an axial pull is likely to be applied in normal use	EL1516-41		
	c) Loosening of removed parts not resulting in a choking hazard, checked with small parts cylinder	EL1516-42		
22.13	Appliances shall be constructed so that when handles are gripped in normal use, contact is unlikely between the operator's hand and parts having a temperature rise exceeding the value specified in table 3 for handles which are held for short periods only in normal use.	EL1516-43		
22.14	Appliances shall have no ragged or sharp edges, other than those necessary for the functioning of the appliance, that could create a hazard for the user in normal use or during user maintenance*	EL1516-44		
22.15	Pointed ends of self-tapping screws or other fasteners shall be located so that they are unlikely to be touched by the user in normal use or during user maintenance*	EL1516-45		
22.16	Automatic cord reels shall be constructed so that they do not cause	EL1516-46		
	a) undue abrasion or damage to the sheath of the flexible cord;			
	b) breakage of conductor strands;			
	c) undue wear of contacts			
	Compliance is checked by the following test, which is carried out without passing current through the flexible cord			

	Two-thirds of the length of the cord is unreeled. If the with draw able length of the cord is less than 225 cm, the cord is unreeled so that a length of 75 cm remains on the reel. An additional length of 75 cm of the cord is the nunreeled and pulled in a direction so that the greatest abrasion occurs to the sheath, taking into account the normal position of use of the appliance. Where the cord leaves the appliance, the angle between the axis of the cord during the test and the axis of the cord when it is unreeled without substantial resistance is approximately60°.The cord is allowed to be recoiled by the reel	EL1516-47		
	The test is carried out 6 000 times at a rate of approximately 30 times per minute or at the maximum rate allowed by the construction of the cord reel if this is less	EL1516-48		
	After this test, the cord and cord reel are inspected. In case of doubt the cord is subjected to the electric strength test of 16.3, a test voltage of 1 000 V being applied between the conductors of the cord connected together and metal foil wrapped around the cord.	EL1516-49		
22.17	Spacers intended to prevent the appliance from overheating walls shall be fixed so that it is not possible to remove them from the outside of the appliance by hand or by means of a screwdriver or a spanner	EL1516-50		
22.18	Current-carrying parts and other metal parts, the corrosion of which could result in a hazard, shall be resistant to corrosion under normal conditions of use.	EL1516-51		
22.19	Driving belts shall not be relied upon to provide the required level of insulation unless they are constructed to prevent inappropriate replacement*	EL1516-52		

22.20	Direct contact between live parts and thermal insulation shall be effectively prevented unless such material is non-corrosive, non-hygroscopic and non-combustible	EL1516-53		
22.21	Wood, cotton, silk, ordinary paper and similar fibrous or hygroscopic material shall notbe used as insulation, unless impregnated.*	EL1516-54		
22.22	Appliances shall not contain asbestos*	EL1516-55		
22.23	Oils containing polychlorinated biphenyl (PCB) shall not be used in appliances*	EL1516-56		
22.24	Bare heating elements shall be supported so that the heating conductor is unlikely to come into contact with accessible metal parts if they rupture*	EL1516-57		
22.25	Sagging heating conductors cannot come into contact with accessible metal parts.*	EL1516-58		
	Requirement not applicable to class III appliances or class III constructions without live parts, appliances where a core effectively prevents sagging, or where supplementary insulation prevents contact			
22.26	Class II appliances having parts of class III construction shall be constructed so that the insulation between parts operating at safety extra-low voltage and other live parts complies with the requirements for double insulation or reinforced insulation	EL1516-59		
22.27	Parts connected by protective impedance shall be separated by double insulation or reinforced insulation	EL1516-60		
22.28	For class II appliances connected in normal use to the gas mains or to the water mains, metal parts conductively connected to the gas pipes or in contact with the water shall be separated from live parts by double insulation or reinforced insulation.*	EL1516-61		

22.29	Class II appliances intended to be permanently connected to fixed wiring shall be constructed so that the required degree of access to live parts is maintained after installation.*	EL1516-62		
22.30	Parts of class II construction which serve as supplementary insulation or reinforced insulation, and which could be omitted during reassembly after servicing, shall be	EL1516-63		
	a) fixed so that they cannot be removed without being seriously damaged, or			
	b) constructed so that they cannot be replaced in an incorrect position and if they are omitted, the appliance is rendered inoperable or manifestly incomplete			
22.31	Clearances and creepage distances over supplementary insulation and reinforced insulation shall not be reduced below the values specified in clause 29 as a result of wear. If a part, such as a wire, screw, nut or spring, becomes loose or falls out of position, clearances and creepage distances between live parts and accessible parts shall not be reduced below the values specified for supplementary insulation	EL1516-64		
	a) only the normal position of use of the appliance is taken into account;			
	b) it is not to be expected that two independent fixings will become loose at the same time;			
	c) parts fixed by means of screws or nuts and locking washers are not regarded as liable to become loose, provided that these screws or nuts are not required to be removed during the replacement of the supply cord or other servicing;			
	d) wires connected by soldering are not considered to be adequately fixed unless they are held in place near the terminals independently of the solder;			

	e) wires connected to terminals are not considered to be adequately secured unless an additional fixing is provided near the terminal, so that in the case of stranded conductors, the fixing clamps both the insulation and conductor;			
	f) short rigid wires are not regarded as liable to be dislodged from a terminal if they remain in position when the terminal screw is loosened			
22.32	Supplementary insulation and reinforced insulation shall be constructed or protected so that the deposition of pollution resulting from wear of parts within the appliance does not reduce clearances or creepage distances below the values specified in clause 29	EL1516-65		
	Parts of natural or synthetic rubber used as supplementary insulation shall be resistant to ageing or be located and dimensioned so that creepage distances are not reduced below the values specified in 29.2, even if cracks occur	EL1516-66		
	Ceramic material which is not tightly sintered, similar materials or beads alone shall not be used as supplementary insulation or reinforced insulation	EL1516-67		
	If the rubber part has to be resistant to ageing than ageing test will be performed as per this standard	EL1516-68		
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 unearthed metal parts separated from live parts by basic insulation only. *	EL1516-69		

	For class II constructions, conductive liquids that are or may become accessible in normal use and conductive liquids that are in contact with unearthed accessible metal parts are not in direct contact with basic or reinforced insulation, unless the reinforced insulation consists of at least 3 layers. *	EL1516-70		
	For class II constructions, conductive liquids which are in contact with live parts are not in direct contact with reinforced insulation, unless the reinforced insulation consists of at least 3 layers.*	EL1516-71		
22.34	Shafts of operating knobs, handles, levers and similar parts shall not be live unless the shaft is inaccessible when the part is removed	EL1516-72		
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. If these handles, levers or knobs are of metal and if their shafts or fixings are likely to become live in the event of an insulation fault, they shall be adequately covered by insulating material or their accessible parts shall be separated from their shafts or fixings by supplementary insulation.	EL1516-73		
22.36	For appliances other than class III appliances, handles continuously held in the hand in normal use so constructed that when gripped as in normal use, the operator's hand is not likely to touch metal parts, unless they are separated from live parts by double or reinforced insulation*	EL1516-74		
22.37	For class II appliances, capacitors shall not be connected to accessible metal parts and their casings, if of metal, shall be separated from accessible metal parts by supplementary insulation	EL1516-75		

	This requirement does not apply to capacitors complying with the requirements for protective impedance specified in 22.42			
22.38	Capacitors shall not be connected between the contacts of a thermal cut-out.*	EL1516-76		
22.39	Lamp holders shall be used only for the connection of lamps.*	EL1516-77		
22.40	Motor-operated appliances and combined appliances which are intended to be moved while in operation, or which have accessible moving parts, shall be fitted with a switch to control the motor. The actuating member of this switch shall be easily visible and accessible.*	EL1516-78		
	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	EL1516-79		
22.41	Appliances shall not incorporate components, other than lamps, containing mercury.*	EL1516-80		
22.42	Protective impedance shall consist of at least two separate components whose impedance is unlikely to change significantly during the lifetime of the appliance. If any one of the components is short-circuited or open-circuited the values specified in 8.1.4 shall not be exceeded.	EL1516-81		
22.43	Appliances which can be adjusted for different voltages shall be constructed so that accidental changing of the setting is unlikely to occur.	EL1516-82		
22.44	Appliances shall not have an enclosure that is shaped and decorated so that the appliance is likely to be treated as a toy by children.*	EL1516-83		
22.45	When air is used as reinforced insulation, clearances not reduced below the values in 29.1.3 due to deformation of the enclosure, applying a force of 30 N to accessible surfaces	EL1516-84		

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	EL1516-85		
22.47	Appliances intended to be connected to the water mains shall withstand the water pressure expected in normal use	EL1516-86		
22.48	Appliances intended to be connected to the water mains shall be constructed to prevent back siphonage of non-potable water into the water mains	EL1516-87		
22.49	For remote operation, the duration of operation is to be set before the appliance can be started, unless			
	the appliance switches off automatically or can operate continuously without hazard			
22.50	Controls incorporated in the appliance take priority over controls actuated by remote operation			
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			
	There is a visual indication showing that the appliance is adjusted for remote operation			
	These requirements are not necessary on appliances that can operate as follows, without giving rise to a hazard:			
	a) continuously, or			
	b) automatically, or			
	c) remotely			
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			

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			
22.54	Button cells and batteries designated R1 not accessible without the aid of a tool, unless			
	the cover of their compartment can only be opened after at least two independent movements have been applied simultaneously			
22.55	Devices operated to stop the intended function of the appliance, if any, are being distinguished from other manual devices by means of shape, size, surface texture, or position			
	The requirement concerning position does not preclude use of a push on push off switch			
	An indication when the device has been operated is given by:			
	a) tactile feedback from the actuator or from the appliance, or			
	b) reduction in heat output, or			
	c) audible and visible feedback			
22.56	Detachable power supply part provided with the part of class III construction			
22.57	The properties of non-metallic materials do not degrade from exposure to UV-C radiation, as specified in normative Annex T			
	This requirement does not apply to glass, ceramics or similar materials			

22.58	Appliances connected to the supply mains by an appliance inlet are provided with a cord set or a connector for attachment to a suitable flexible cord, except from			
	a) appliances complying with IEC 60320-3, or			
	b) single phase appliances having a rated current exceeding 16 A, connected to mains by an appliance inlet complying with IEC 60309-2, or			
	c) multi-phase appliances connected to mains by an appliance inlet complying with IEC 60309-2			
22.59	Protective extra-low voltage circuits separated by at least supplementary insulation from circuits operating at safety extra-low voltage			
22.60	Functional earthing terminals and functional earthing contacts not connected to the neutral terminal			
22.61	Appliance outlets complying with the standard sheets in IEC 60320-3 accessible to the user and socket outlets accessible to the user are single phase, if:			
	a) they are incorporated in appliances connected to the supply mains, and			
	b) they operate at rated voltage			
	c) Current rating not exceeding 16 A			
	Appliance outlets accessible to the user, other than those supplying accessories, and socket-outlets accessible to the user are protected by one of the following:			
	a) a circuit breaker for equipment complying with IEC 60934, or			

	b) a non-user replaceable fuse-link			
	Current rating of protective device not exceeding current rating of the appliance outlet or socket-outlet (A)			
	Protective device placed behind a non-detachable cover			
	Current rating of appliance outlets and socket-outlets marked with the outlet load in watts, obtained from the market outlet load divided by the rated voltage (A):			
22.62	Remote communication through public networks does not impair compliance with this standard			
	The requirement does only apply to remote communication where the download of software or the transmission of data:			
	a) includes measures according to normative Annex R necessary for compliance with 22.46, or			
	Includes means necessary for compliance with Clauses 8 to 32			
	b) only affects the software part that is not covered by a), but where compliance might be impaired due to improper separation of partitioning from the software or data in a)			
	The requirement does not apply to appliances:			
	- where all measures to comply with this standards are independent of software,			
	- using remote communication through public networks for the send-only transmission of data, or			
	- that only provide event driven messages or push remote monitoring			

	Compliance checked by inspection of the product and the technical documentation, and by the requirements and tests in normative Annex U			

*Total number of Requirements to be observed / inspected = 23
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 65
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1517-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
23	Internal wiring	EL1517-00		
23.1	Wire ways shall be smooth and free from sharp edges.*	EL1517-01		
	Wires shall be protected so that they do not come into contact with burrs, cooling fins or similar edges which may cause damage to their insulation.*	EL1517-02		
	Holes in metal through which insulated wires pass shall have smooth well-rounded surfaces or be provided with bushings.*	EL1517-03		
	Wiring shall be effectively prevented from coming into contact with moving parts.*	EL1517-04		
	Internal wiring and electrical connections between different parts of the appliance shall be adequately protected or enclosed.*	EL1517-05		
23.2	Beads and similar ceramic insulators on live wires shall be fixed or located so that they cannot change their position or rest on sharp edges. If beads are inside flexible metal conduits, they shall be contained within an insulating sleeve, unless the conduit cannot move in normal use.	EL1517-06		
23.3	Different parts of an appliance that can move relative to each other in normal use or during user maintenance shall not cause undue stress to electrical connections and internal conductors, including those providing earthing continuity. Flexible metallic tubes shall not cause damage to the insulation of the conductors contained within them. Open-coil springs shall not be used to protect the wiring. If a coiled spring, the turns of which touch one another, is used for this purpose, there shall be an adequate insulating lining in addition to the insulation of the conductors	EL1517-07		

	If flexing occurs in normal use, the appliance is placed in the normal position of use and is supplied at rated voltage and operated under normal operation			
	The movable part is moved backwards and forwards, so that the conductor is flexed through the largest angle allowed by the construction, the rate of flexing being 30 per minute. The number of flexings is	EL1517-08		
	a) 10 000, for conductors flexed during normal use;			
	b) 100, for conductors flexed during user maintenance			
	The appliance shall not be damaged to the extent that compliance with this standard is impaired and it shall be fit for further use. In particular, the wiring and its connections shall withstand the electric strength test of 16.3, the test voltage being reduced to 1 000 V and applied between live parts and accessible metal parts only.	EL1517-09		
	Not more than 10 % of the strands of any conductor broken, and	EL1517-10		
	not more than 30 % for wiring supplying circuits that consume no more than 15 W	EL1517-11		
23.4	Bare internal wiring shall be rigid and fixed so that, in normal use, clearances or creepage distances cannot be reduced below the values specified in clause 29.	EL1517-12		
23.5	No use of a single layer of internal wiring insulation to provide reinforced insulation.			
	For class II construction, the sheath of a cord complying with IEC 60227 or IEC 60245 or IEC 62821 may provide supplementary insulation	EL1517-13		
	Insulation of single layer internal wiring subjected to the supply mains voltage withstands the electrical stress likely to occur in normal use, if:			

	a) insulation of single layer internal wiring electrically equivalent to the basic insulation of cords complying with IEC 60227 or IEC 60245 or IEC 62821, or			
	A voltage of *2* 000 V is applied for 15 min between the conductor and metal foil wrapped around the insulation. There shall be no breakdown	EL1517-14		
23.6	When sleeving is used as supplementary insulation on internal wiring, it shall beretained in position by positive means	EL1517-15		
23.7	Conductors identified by the colour combination green-yellow or by the colour green shall only be used for earthing conductors...*	EL1517-16		
23.8	Aluminium wires shall not be used for internal wiring.*	EL1517-17		
23.9	Stranded conductors shall not be consolidated by lead-tin soldering where they are subjected to contact pressure, unless the clamping means is constructed so that there is no risk of bad contact due to cold flow of the solder.*	EL1517-18		
23.10	The insulation and sheath of internal wiring, incorporated in external hoses for the connection of an appliance to the water mains, at least equivalent to that of light polyvinyl chloride sheathed flexible cord (60227 IEC 52), checked as specified.*	EL1517-19		

*Total number of Requirements to be observed / inspected = 09
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 11
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL1518-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
24	Components	EL1518-00		
24.1	Components shall comply with the safety requirements specified in the relevant Indian Standards wherever exists as far as they reasonably apply	EL1518-01		
	Unless otherwise specified, the requirements of 29 of this standard apply between live parts of components and accessible parts of the appliance			
	Motors not required to comply with IEC 60034-1, they are tested as part of the appliance			
	Relays tested as part of the appliance, or alternatively, acc. to IEC 60730-1:2013 including IEC 60730-1:2013/AMD1:2015, and meeting the additional requirements in IEC 60335-1			
	Motors not required to comply with IEC 60034-1, they are tested as part of the appliance			
	Relays tested as part of the appliance, or			
	alternatively, acc. to IEC 60730-1:2013 including IEC 60730-1:2013/AMD1:2015, and meeting the additional requirements in IEC 60335-1			
	The requirements of Clause 29 apply between live parts of components and accessible parts of the appliance			
	Components can comply with the requirements for clearances and creepage distances for functional insulation in the relevant component standard			
	30.2 of this standard applies to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections			

	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			
	Components that have not been separately tested and found (o comply with the relevant Indian Standards, wherever exists, components that are not marked or not used in accordance with their marking, are tested in accordance with the conditions occurring in the appliance, the number of samples being that required by the relevant standard			
	Power electronic converter circuits not required to comply with IEC 62477-1, they are tested as part of the appliance			
	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			
	For components mentioned in 24.1.1 to 24.1.9 no additional tests specified in the relevant component standard are necessary other than those specified in 24.1.1 to 24.1.9			
	Components not tested and found to comply with relevant IEC standard and components not marked or not used according to their marking, tested under the conditions occurring in the appliance			
	Lampholders and starterholders not being previously tested and found to comply with the relevant IEC standard, tested as a part of the appliance and additionally complying with the gauging and interchangeability requirements of the relevant IEC standard under the conditions occurring in the appliance			

24.1.1	Capacitors likely to be permanently subjected to the supply voltage and used for radio interference suppression or for voltage dividing comply with IEC 60384-14:2013 including IEC 60384-14:2013/AMD1:2016. If the capacitors have to be tested, they are tested according to normative Annex F	EL1518-02		
24.1.2	The relevant standard for safety isolating transformers is IS/IEC 61558-2-6. If they have to be tested, they are tested in accordance with Annex G.	EL1518-03		
24.1.3	Switches comply with IEC 61058-1:2016, number of cycles of operation being at least 10 000, unless the appliance meets the requirements of this standard when they are rendered inoperative, then the number of cycles need not to be declared for 7.4 of IEC 61058-1:2016	EL1518-04		
	If the switch operates a relay or contactor, the complete switching system is subjected to the test			
	If the switch only operates a motor starting relay complying with IEC 60730-2-10 with the number of cycles of a least 10 000 as specified, the complete switching system need not be tested			
24.1.4	The relevant standard for automatic controls is IS/IEC 60730-1 together with its relevant part 2.	EL1518-05		
	The number of cycles of operation declared for 6.10 and 6.11 of IEC 60730-1 shall not be less than the following:	EL1518-06		
	a) thermostats 10000	EL1518-07		
	b) temperature limiters 1000	EL1518-08		
	c) self-resetting thermal cut-outs 300	EL1518-09		
	d)voltage mentioned non-self-resetting thermal cut-outs 30	EL1518-10		

	e) other non-self-resetting thermal cutout	EL1518-11		
	f) timers 3000	EL1518-12		
	g) energy regulators 10 000	EL1518-13		
	If automatic controls have to be tested, they are also tested in accordance with11.3.5 to 11.3.8 and clause 17 of IS/IEC 60730-1 as type 1 controls.	EL1518-14		
	Thermal motor protectors are tested in combination with their motor under the conditions specified in Annex D	EL1518-15		
	For water valves containing live parts and that are incorporated in external hoses for connection of an appliance to the water mains, the degree of protection provided by enclosures against harmful ingress of water declared shall be IPX7	EL1518-16		
	Tests on interlocks: 6 samples, rated voltage, load of appliance, 6 cycles per minutes. The number of cycles of operation being:	EL1518-17		
	-Door interlocks, no damages after 50 000	EL1518-18		
	-Interlock only operated during user maintenance, no damages after 5000	EL1518-19		
24.1.5	The relevant standard for appliance couplers is IS/IEC 60320-1. However, for appliances classified higher than IPX0, the relevant standard is IS/ IEC 60320-2-3.	EL1518-20		
24.1.6	The relevant standard for small lamp holders similar to E10 lamp holders is IS10276, the requirements for E10 lamp holders being applicable.	EL1518-21		
24.1.7	For remote operation of the appliance via a telecommunication network, the relevant standard for the telecommunication interface circuitry in the appliance is IEC 62151	EL1518-22		
24.1.8	Thermal links comply with IEC 60691	EL1518-23		

24.1.9	Contactors and relays, other than motor starting relays, tested as part of the appliance	EL1518-24		
	They are also tested in accordance with Clause 17 of IEC 60730-1:2013 including IEC 60730-1:2013/AMD:2015, the number of cycles of operations in 24.1.4 selected according to the contactor or relay function in the appliance :	EL1518-25		
24.1.10	Lamps and lamp systems that have not been previously tested and found to comply with the exempt group classification of IEC 62471:2006 GLS regarding E_S and E_{UVA}:	EL1518-26		
	- tested as part of the appliance			
	- comply with the requirements of Clause 32 under the conditions occurring in the appliance			
	Unless otherwise specified, the following components are considered to comply with the specified GLS classification:			
	-visible light indicators			
	- infrared sources used for signalling or communication			
	- seven-segment indicators			
	- liquid crystal displays			
	- organic LED displays (OLED)			
	- plasma displays			
24.1.11	Cord sets required to be provided with the appliance comply with IEC 60799	EL1518-27		
	Cord sets with cords complying to IEC 62821-3 allowed	EL1518-28		
24.2	Appliances shall not be fitted with	EL1518-29		
	a) switches or automatic controls in flexible cords			
	b) devices that cause the protective device in the fixed wiring to operate in the event of a fault in the appliance			
	c) thermal cut-outs that can be reset by a soldering operation			

24.3	Switches intended to ensure all-pole disconnection of stationary appliances, as required in 22.2, shall be directly connected to the supply terminals and shall have a contact separation in all poles, providing full disconnection under overvoltage category III conditions	EL1518-30		
24.4	Plugs and socket-outlets for extra-low voltage circuits, and those used as terminal devices for heating elements, shall not be interchangeable with plugs and socket-outlets listed in IS 1293 or with connectors and appliance inlets complying with the standard sheets of IEC 60320-1	EL1518-31		
24.5	Capacitors in auxiliary windings of motors shall be marked with their rated voltage and their rated capacitance and shall be used in accordance with these markings	EL1518-32		
24.6	The working voltage of motors directly connected to the supply mains and having basic insulation that is inadequate for the rated voltage of the appliance shall not exceed 42 V. In addition, they shall comply with the requirements of annex I.	EL1518-33		
24.7	Detachable hose-sets for connection of appliances to the water mains comply with IEC 61770	EL1518-34		
	They are supplied with the appliance	EL1518-35		
	Appliances intended to be permanently connected to the water mains not connected by a detachable hose-set	EL1518-36		
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 One or more of the following conditions are met:	EL1518-37		

	-the capacitors are of class S2 or S3 according to IEC 60252-1:2010 including IEC 60252-1:2010/AMD1:2013			
	- the capacitors are housed within a metallic or ceramic enclosure			
	- the distance of separation of the outer surface to adjacent non-metallic parts exceeds 50 mm			
	- adjacent non-metallic parts within 50 mm withstand the needle-flame test of normative Annex E			
	- adjacent non-metallic parts within 50 mm classified as at least V-1 according to IEC 60695-11-10			
	For capacitors complying with IEC 60252-1:2010 including IEC 60252-1:2010/AMD1:2013, damp heat test for 5.14 of that standard with severity parameters as specified	EL1518-38		

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 39
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL1519-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
25	Supply connection and external flexible cords	EL1519-00		
25.1	Appliances, other than those intended to be permanently connected to fixed wiring, shall be provided with one of the following means for connection to the supply mains:*	EL1519-01		
	a) supply cord fitted with a plug;*			
	b)an appliance inlet having at least the same degree of protection against moisture as required for the appliance;*			
	c) pins for insertion into socket-outlets.*			
25.2	Appliances, other than stationary appliances for multiple supply, shall not be provided with more than one means of connection to the supply mains. Stationary appliances for multiple supply may be provided with more than one means of connection provided that the relevant circuits are adequately insulated from each other.	EL1519-02		
25.3	Appliances intended to be permanently connected to fixed wiring shall allow the connection of the supply conductors after the appliance has been fixed to its support and shall be provided with one of the following means for connection to the supply pins	EL1519-03		
	a) a set of terminals allowing the connection of cables of fixed wiring having the nominal cross-sectional areas specified in 26.6	EL1519-04		
	b) a set of terminals allowing the connection of a flexible cord;	EL1519-05		
25.4	For appliances intended to be permanently connected to the fixed wiring and having a rated current not exceeding 16 A, cable and conduit entries shall be suitable for cables or conduits having a maximum overall diameter shown in table 10.	EL1519-06		

	Conduit entries, cable entries and knock-outs shall be constructed or located so that the introduction of the conduit or cable does not reduce clearances or creepage distances below the values specified in clause 29.	EL1519-07		
25.5	Supply cords shall be assembled to the appliance by one of the following methods:*	EL1519-08		
	a) type X attachment;			
	b) type Y attachment			
	c) type Z attachment, if allowed in the relevant part 2			
	Type X attachments, other than those having a specially prepared cord, shall not be used for flat twin tinsel cords.*	EL1519-09		
25.6	Plugs shall not be fitted with more than one flexible cord.*	EL1519-10		
25.7	Supply cords shall not be lighter than	EL1519-11		
	a) braided cord, if allowed in the relevant part 2;			
	b) ordinary tough rubber sheathed cord			
	c) ordinary poly chloroprene sheathed flexible cord			
	d) flat twin tinsel cord, if allowed in the relevant part 2;			
	e) light polyvinyl chloride sheathed cord, for appliances having a mass not exceeding 3 kg;			
	f) ordinary polyvinyl chloride sheathed cord for appliances having a mass exceeding 3 kg.			
	Polyvinyl chloride sheathed cords shall not be used for appliances if the temperature rise of external metal parts exceeds 75 K during the test of clause 11. However, they may be used if	EL1519-12		
	a) the appliance is constructed so that the supply cord is not likely to touch such metal parts in normal use;			

	b) the supply cord is appropriate for higher temperatures. In this case, type Y attachment or type Z attachment shall be used.			
25.8	Conductors of supply cords shall have a nominal cross-sectional area not less than that shown in table 11.	EL1519-13		
25.9	Supply cords shall not be in contact with sharp points or edges of the appliance.*	EL1519-14		
25.10	The supply cord of class I appliances shall have a green/yellow core that is connected to the earthing terminal of the appliance and to the earthing contact of the plug.*	EL1519-15		
25.11	Conductors of supply cords shall not be consolidated by lead-tin soldering where they are subjected to contact pressure, unless the clamping means is constructed so that there is no risk of a bad contact due to cold flow of the solder.*	EL1519-16		
25.12	The insulation of the supply cords shall not be damaged when molding the cord to part of the enclosure.*	EL1519-17		
25.13	Inlet openings for supply cords shall be constructed so that the sheath of the supply cord can be introduced without risk of damage. Unless the enclosure at the inlet opening is insulating material, a non-detachable lining or non-detachable bushing shall be provided that complies with 29.3 for supplementary insulation. If the supply cord is unsheathed, a similar additional bushing or lining is required.*	EL1519-18		
25.14	Appliances provided with a supply cord that are moved while in operation shall be constructed so that the supply cord is adequately protected against excessive flexing where it enters the appliance.	EL1519-19		

	The part of the appliance that includes the inlet opening is fixed to the oscillating member so that, when the supply cord is at the middle of its travel, the axis of the cord where it enters the cord guard or inlet is vertical and passes through the axis of oscillation. The major axis of the section of flat cords shall be parallel to the axis of oscillation			
	a) 10 N, for cords having a nominal cross-sectional area exceeding 0.75 mm²	EL1519-20		
	b) 5 N, for other cords.	EL1519-21		
	The distance X, as shown in figure 8, between the axis of oscillation and the point where the cord or cord guard enters the appliance, is adjusted so that when the oscillating member moves over its full range, the cord and load make the minimum lateral movement	EL1519-22		
	The oscillating member is moved through an angle of 90° (45° on either side of the vertical), the number of flexings for type Z attachments being 20 000 and for other attachments 10 000. The rate of flexing is 60 per minute.	EL1519-23		
	The cord and its associated parts are turned through an angle of 90° after half the number of flexings, unless a flat cord is fitted.	EL1519-24		
	During the test, the conductors are supplied at rated voltage and loaded with the rated current of the appliance	EL1519-25		
	The test shall not result in			
	a) a short circuit between the conductors;			
	b) a breakage of more than 10 % of the strands of any conductor			
	c) separation of the conductor from its terminal;			
	d) loosening of any cord guard;			
	e) damage to the cord or cord guard which could impair compliance with this standard;			

	f) broken strands piercing the insulation and becoming accessible			
	For temperature sensing probes total number of flexings is 5000; probes with circular section cords are turned through 90° after 2500 flexings	EL1519-26		
25.15	Appliances provided with a supply cord, and appliances intended to be permanently connected to fixed wiring by a flexible cord, shall have a cord anchorage. The cord anchorage shall relieve conductors from strain, including twisting, at the terminals and protect the insulation of the conductors from abrasion.	EL1519-27		
25.16	Cord anchorages for type X attachments shall be constructed and located so that			
	a) replacement of the cord is easily possible;	EL1519-28		
	b) it is clear how the relief from strain and the prevention of twisting are obtained;	EL1519-29		
	c) they are suitable for the different types of supply cord that may be connected, unless the cord is specially prepared;	EL1519-30		
	d) the cord cannot touch the clamping screws of the cord anchorage if these screws are accessible, unless they are separated from accessible metal parts by supplementary insulation;	EL1519-31		
	e) the cord is not clamped by a metal screw which bears directly on the cord;	EL1519-32		
	f) at least one part of the cord anchorage is securely fixed to the appliance, unless it is part of a specially prepared cord;	EL1519-33		
	g) screws which have to be operated when replacing the cord do not fix any other component. However, this does not apply if	EL1519-34		
	1) after removal of the screws, or if the component is incorrectly repositioned, the appliance becomes inoperative or is obviously incomplete			

	2) the parts intended to be fastened by them cannot be removed without the aid of a tool during the replacement of the cord			
	h) if labyrinths can be bypassed the test of 25.15 is nevertheless withstood	EL1519-35		
	J) for class 0 appliances, class 0I appliances and class I appliances, they are of insulating material or are provided with an insulating lining, unless failure of the insulation of the cord does not make accessible metal parts live;	EL1519-36		
	k) for class II appliances, they are of insulating material or, if of metal, they are insulated from accessible metal parts by supplementary insulation	EL1519-37		
	Compliance is checked by inspection and by the test of 25.15 under the following conditions	EL1519-38		
	The tests are carried out with the lightest permissible type of cord of the smallest cross sectional area specified in table 13 and then with the next heavier type cord having the largest cross-sectional area specified. However, if the appliance is fitted with a specially prepared cord, the test is carried out with this cord	EL1519-39		
	The conductors are placed in the terminals and any terminal screws tightened just sufficiently to prevent the conductors from easily changing their position. The clamping screws of the cord anchorage are tightened with two-thirds of the torque specified in 28.1.	EL1519-40		
	Screws of insulating material bearing directly on the cord are fastened with two-thirds of the torque specified in column I of table 14, the length of the slot in the screw head being taken as the nominal diameter of the screw.	EL1519-41		
	After the test, the conductors shall not have moved by more than 1 mm in the terminals			

25.17	For type Y attachment and type Z attachment, cord anchorages shall be adequate	EL1519-42		
25.18	Cord anchorages shall be arranged so that they are only accessible with the aid of a tool or shall be constructed so that the cord can only be fitted with the aid of a tool.*	EL1519-43		
25.19	For type X attachment, glands shall not be used as cord anchorages in portable appliances. Tying the cord into a knot or tying the cord with string is not allowed.*	EL1519-44		
25.20	The insulated conductors of the supply cord for type Y attachment and type Z attachment shall be additionally insulated from accessible metal parts by basic insulation for class 0 appliances, class 0I appliances and class I appliances, and by supplementary insulation for class II appliances. This insulation may be provided by the sheath of the supply cord or by other means	EL1519-45		
25.21	The space for the connection of supply cords having type X attachment, or for the connection of fixed wiring, shall be constructed			
	a) so that it is possible to check that the supply conductors are correctly positioned and connected before fitting any cover	EL1519-46		
	b) so that any cover can be fitted without risk of damage to the conductors or their insulation	EL1519-47		
	c) for portable appliances, so that the uninsulated end of a conductor, should it become free from the terminal, cannot come into contact with accessible metal parts	EL1519-48		
	Portable appliances are subjected to the following additional test unless they are provided with pillar terminals and the supply cord is clamped within 30 mm of them	EL1519-49		

	The clamping screws or nuts are loosened in turn. A force of 2 N is applied to the conductor in any direction at a position adjacent to the terminal. The uninsulated end of the conductor shall not come into contact with accessible metal parts	EL1519-50		
25.22	Appliance inlets shall			
	a) be located or enclosed so that live parts are not accessible during insertion or removal of the connector.*	EL1519-51		
	b) be located so that the connector can be inserted without difficulty.*	EL1519-52		
	c) be located so that, after insertion of the connector, the appliance is not supported by the connector when it is placed in any position of normal use on a flat surface;*	EL1519-53		
	d) not be an appliance inlet for cold conditions if the temperature rise of external metal parts of the appliance exceeds 75 K during the test of clause 11, unless the supply cord is unlikely to touch such metal parts in normal use.*	EL1519-54		
25.23	Interconnection cords shall comply with the requirements for the supply cord, except that			
	a) the cross-sectional area of the conductors of the interconnection cord is determined on the basis of the maximum current carried by the conductor during the test of clause 11 and not by the rated current of the appliance	EL1519-55		
	b) the thickness of the insulation of the conductor may be reduced if the voltage of the conductor is less than the rated voltage.	EL1519-56		
25.24	Interconnection cords shall not be detachable without the aid of a tool if compliance with this standard is impaired when they are disconnected	EL1519-57		

25.25	The dimensions of pins of appliances that are inserted into socket-outlets shall be compatible with the dimensions of the relevant socket-outlet. Dimensions of the pins and engagement face are to be in accordance with the dimensions of the relevant plug listed in IS 1293.	EL1519-58		

*Total number of Requirements to be observed / inspected = 15
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 44
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1520-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
26	Terminals for external conductors	EL1520-00		
26.1	Appliances provided with terminals or equally effective devices, such as male tabs of flat quick-connect terminations (IEC 61210), screw type terminals (IEC 60998-2-1), screwless terminals (IEC 60998-2-2) and clamping units (IEC 60999-1:1999), for connection of external conductors	EL1520-01		
	Terminal other than terminals in class III appliances that do not contain live parts, shall only be accessible after the removal of a non-detachable cover.	EL1520-02		
	Earthing terminals and functional earthing terminals may be accessible if a tool is required to make the connections and means are provided to clamp the wire independently from its connection	EL1520-03		
26.2	Appliances having type X attachment, except those having a specially prepared cord, and appliances for connection to fixed wiring shall be provided with terminals in which the connections are made by means of screws, nuts or similar devices, unless the connections are soldered.	EL1520-04		
	The screws and nuts shall not be used to fix any other component except that they may also clamp internal conductors if these are arranged so that they are unlikely to be displaced when fitting the supply conductors	EL1520-05		
	If soldered connections are used, the conductor shall be positioned or fixed so that reliance is not placed upon the soldering alone to maintain it in position. However, soldering alone may be used if barriers are provided so that clearances and creepage distances between live parts and other metal parts cannot be reduced below the values specified for supplementary insulation if the conductor becomes free at the soldered joint.	EL1520-06		

26.3	Terminals for type X attachment and those for connection to fixed wiring shall be constructed so that they clamp the conductor between metal surfaces with sufficient contact pressure but without causing damage to the conductor.	EL1520-07		
	The terminals shall be fixed so that when the clamping means is tightened or loosened			
	a) the terminal does not become loose;*	EL1520-08		
	b) internal wiring is not subjected to stress;*	EL1520-09		
	c) clearances and creepage distances are not reduced below the values specified in clause 29.*	EL1520-10		
	Compliance checked by inspection and by the test of subclause 9.6 of IEC 60999-1:1999, the torque applied being equal to two-thirds of the torque specified (Nm)	EL1520-11		
	After the test no deep or sharp indentations of the conductors	EL1520-12		
26.4	Terminals for type X attachment, except type X attachments having a specially prepared cord, and terminals for connection to fixed wiring, shall not require special preparation of the conductor. They shall be constructed or placed so that the conductor cannot slip out when clamping screws or nuts are tightened.	EL1520-13		
26.5	Terminals for type X attachment shall be located or shielded so that if a wire of a stranded conductor escapes when the conductors are fitted, there is no risk of accidental connection to other parts that could result in a hazard.	EL1520-14		
	A 8 mm length of insulation is removed from the end of a flexible conductor having a nominal cross-sectional area as specified in table 11. One wire of the stranded conductor is left free and the other wires are fully inserted and clamped in the terminal. The free wire is bent, without tearing the insulation back, in every possible direction but without making sharp bends around barriers	EL1520-15		

	There shall be no contact between live parts and accessible metal parts and, for class II constructions, between live parts and metal parts separated from accessible metal parts by supplementary insulation only.	EL1520-16		
26.6	Terminals for type X attachment and for connection to fixed wiring shall allow the connection of conductors having the nominal cross-sectional areas shown in table 13. However, if a specially prepared cord is used, the terminals need only be suitable for the connection of that cord.	EL1520-17		
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.*	EL1520-18		
26.8	Terminals for the connection of fixed wiring, including the earthing terminal, shall be located close to each other.*	EL1520-19		
26.9	Terminals of the pillar type shall be constructed and located so that the end of a conductor introduced into the hole is visible, or can pass beyond the threaded hole for a distance equal to half the nominal diameter of the screw but at least 2.5 mm.	EL1520-20		
26.10	Terminals with screw clamping and screw less terminals shall not be used for the connection of the conductors of flat twin tinsel cords unless the ends of the conductors are fitted with means suitable for use with screw terminals.	EL1520-21		
	Compliance is checked by inspection and by applying a pull of 5 N to the connection.	EL1520-22		
	After the test, the connection shall show no damage that could impair compliance with this standard			

26.11	For appliances having type Y attachment or type Z attachment, soldered, welded, crimped or similar connections may be used for the connection of external conductors. For class II appliances, the conductor shall be positioned or fixed so that reliance is not placed upon the soldering, crimping or welding alone to maintain the conductor in position. However, these methods may be used alone if barriers are provided so that clearances and creepage distances between live parts and other metal parts cannot be reduced below the values specified for supplementary insulation, if the conductor becomes free at the soldered or welded joint or slips out of the crimped connection.	EL1520-23		

*Total number of Requirements to be observed / inspected = 05
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed =00

Total number of tests to be conducted = 19
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1521-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
27	Provision for earthing	EL1521-00		
27.1	Accessible metal parts of class 0l appliances and class I appliances that may become live in the event of an insulation fault, shall be permanently and reliably connected to an earthing terminal within the appliance or to the earthing contact of the appliance inlet.*	EL1521-01		
	Earthing terminals and earthing contacts shall not be connected to the neutral terminal			
	Class 0 appliances, class II appliances and class III appliances shall have no provision for earthing.			
	Safety extra-low voltage circuits shall not be earthed unless they are protective extra-low voltage circuits			
27.2	The clamping means of earthing terminals shall be adequately secured against accidental loosening.			
	Terminals for the connection of external equipotential bonding conductors shall allow the connection of conductors having nominal cross-sectional areas of 2.5 mm² to 6 mm² and shall not be used to provide earthing continuity between different parts of the appliance. It shall not be possible to loosen the conductors without the aid of a tool.	EL1521-02		
27.3	For appliances with supply cords, the arrangement of the terminals, or the length of the conductors between the cord anchorage and the terminals, shall be such that the current carrying conductors become taut before the earthing conductor if the cord slips out of the cord anchorage	EL1521-03		

27.4	All parts of the earthing terminal intended for the connection of external conductors shall be such that there is no risk of corrosion resulting from contact between these parts and the copper of the earthing conductor or any other metal in contact with these parts.	EL1521-04		
	Parts providing earthing continuity, other than parts of a metal frame or enclosure, shall be of metal having adequate resistance to corrosion. If these parts are of steel, they shall be provided at the essential areas with an electroplated coating having a thickness of at least 5 µm.	EL1521-05		
	Parts of coated or uncoated steel that are only intended to provide or to transmit contact pressure shall be adequately protected against rusting.	EL1521-06		
	If the body of the earthing terminal is a part of a frame or enclosure of aluminium or aluminium alloy, precautions shall be taken to avoid the risk of corrosion resulting from contact between copper and aluminium or its alloys. In case of doubt, thickness of coating measured as described in ISO 2178 or in ISO 1463.	EL1521-07		
27.5	The connection between the earthing terminal or earthing contact and earthed metal parts shall have low resistance	EL1521-08		
	If the clearances of basic insulation in a protective extra-low voltage circuit are based on the rated voltage of the appliance, this requirement does not apply to connections providing earthing continuity in the protective extra-low voltage circuit.	EL1521-09		
	A current derived from a source having a no-load voltage not exceeding 12 V (a.c. or d.c.) and equal to 1.5 times rated current of the appliance or 25 A, whichever is higher, is passed between the earthing terminal or earthing contact and each of the accessible metal parts in turn.	EL1521-10		

	The voltage drop between the earthing terminal of the appliance or the earthing contact of the Appliance inlet and the accessible metal part is measured. The resistance calculated from the current and this voltage drop shall not exceed 0.1 ohm.			
27.6	The printed conductors of printed circuit boards shall not be used to provide earthing continuity in hand-held appliances. They may be used to provide earthing continuity in other appliances if			
	a) at least two tracks are used with independent soldering points and the appliance complies with 27.5 for each circuit,	EL1521-11		
	~~b) the material of the printed circuit board complies with IS 5921 (Part 6) or IS 5921 (Part 7).~~	~~EL1520-12~~		

*Total number of Requirements to be observed / inspected = 01
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 11
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1522-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
28	Screws and connections	EL1522-00		
28.1	Fixings, the failure of which may impair compliance with this standard, electrical connections and connections providing earthing continuity shall withstand the mechanical stresses occurring in normal use.	EL1522-01		
	Screws used for these purposes shall not be of metal which is soft or liable to creep, such as zinc or aluminium. If they are of insulating material, they shall have a nominal diameter of atleast 3 mm and they shall not be used for any electrical connections or connections providing earthing continuity.	EL1522-02		
	Screws used for electrical connections or for connections providing earthing continuity shall screw into metal.	EL1522-03		
	Screws shall not be of insulating material if their replacement by a metal screw could impair supplementary insulation or reinforced insulation. Screws that may be removed when replacing a supply cord having a type X attachment or when undertaking user maintenance shall not be of insulating material if their replacement by a metal screw could impair basic insulation.	EL1522-04		
	Screws and nuts are tested if they are.	EL1522-05		
	a) used for electrical connections;			
	b) used for connections providing earthing continuity, unless at least two screws or nuts are used;			
	c) likely to be tightened			
	1) during user maintenance			
	2) when replacing a supply cord having a type X attachment			

	3) during installation.			
	The screws or nuts are tightened and loosened without jerking:	EL1522-06		
	a)10 times for screws in engagement with a thread of insulating material			
	b) 5 times for nuts and other screws.			
	Screws in engagement with a thread of insulating material are completely removed and reinserted each time.			
	When testing terminal screws and nuts, a cable or flexible cord of the largest cross-sectional area specified in table 13 is placed in the terminal. It is repositioned before each tightening.	EL1522-07		
	The test is carried out by means of a suitable screwdriver, spanner or key and by applying a torque as shown in table 14.	EL1522-08		
	Column I is applicable for metal screws without heads if the screw does not protrude from the hole when tightened	EL1522-09		
	Column II is applicable	EL1522-10		
	a) for other metal screws and for nuts;	EL1522-11		
	b) for screws of insulating material	EL1522-12		
	1) having a hexagonal head with the dimension across flats exceeding the overall thread diameter			
	2) with a cylindrical head and a socket for a key, the socket having a cross-corner dimension exceeding the overall thread diameter;			
	3) with a head having a slot or cross-slots, the length of which exceeds 1.5 times the overall thread diameter.			

28.2	Electrical connections and connections providing earthing continuity shall be constructed so that contact pressure is not transmitted through insulating material that is liable to shrink or to distort unless there is sufficient resiliency in the metallic parts to compensate for any possible shrinkage or distortion of the insulating material.*	EL1522-13		
	This requirement does not apply to electrical connections in circuits of appliances for which:*			
	- 30.2.2 is applicable and that carry a current not exceeding 0,5 A*			
	- 30.2.3 is applicable and that carry a current not exceeding 0,2 A*			
28.3	Space-threaded (sheet metal) screws shall only be used for electrical connections if they clamp the parts together.*	EL1522-14		
	Thread-cutting (self-tapping) screws shall only be used for electrical connections if they generate a full form standard machine screw thread. Such screws shall not be used if they are likely to be operated by the user or installer unless the thread is formed by a swaging action.*			
	Thread-cutting, thread rolling and space threaded screws may be used in connections providing earthing continuity provided it is not necessary to disturb the connection*	EL1522-15		
	- in normal use*			
	- during user maintenance*			
	- when replacing a supply cord having a type X attachment, or during installation*			
	At least two screws being used for each connection providing earthing continuity, unless			
	the screw forms a thread having a length of at least half the diameter of the screw			

28.4	Thread-cutting and space threaded screws may be used in connections providing earthing continuity provided it is unnecessary to disturb the connection in normal use and at least two screws are used for each connection	EL1522-16		

*Total number of Requirements to be observed / inspected = 03
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed =00

Total number of tests to be conducted = 14
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1523-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
29	Clearances, creepage distances and solid insulation	EL1523-00		
	Appliances shall be constructed so that the clearances, creepage distances and solid insulation are adequate to withstand the electrical stresses to which the appliance is liable to be subjected	EL1523-01		
	For coatings used on printed circuits boards to protect the microenvironment (type 1) or to provide basic insulation (type 2), normative Annex J applies, The microenvironment is pollution degree 1 under type 1 protection. For type 2 protection, the spacing between the conductors before the protection is applied is not less than the values specified in Table 1 of IEC 60664-3:2016. These values apply to functional, basic, supplementary and reinforced insulation	EL1523-02		
29.1	Clearances shall not be less than the values specified in table 16, taking into account the rated impulse voltage for the overvoltage categories of table 15. However, they may be smaller for basic insulation and functional insulation if the clearance meets the impulse voltage test of clause 14. This test is only applicable if the construction is such that there is no likelihood of the distances being affected by distortion, by wear, by movement of the parts or during assembly. The clearances for rated impulse voltages of 1500 V and above are increased by 0.5 mm and the impulse voltage test is not applicable	EL1523-03		
	Examples of constructions in which distances are likely to be affected are those involving soldering, snap-on and screw terminals and clearances from motor windings.			

	Appliances are in overvoltage category II.	EL1523-04		
	Clearances less than those specified in table 16 are not allowed for basic insulation of class 0 appliances and class 01 appliances, or if pollution degree 3 is applicable.	EL1523-05		
	Parts, such as hexagonal nuts that can be tightened to different positions during assembly, and movable parts, are placed in the most unfavorable position.	EL1523-06		
	A force is applied to bare conductors, other than those of heating elements, and accessible surfaces to try to reduce clearances when making the measurement. The force is			
	a) 2 N, for bare conductors,	EL1523-07		
	b) 30 N, for accessible surfaces	EL1523-08		
	The force is applied by means of test probe B of IS 1401. Apertures are assumed to be covered by a piece of flat metal	EL1523-09		
29.1.1	The clearances of basic insulation shall be sufficient to withstand the over voltages likely to occur during use, taking into account the rated impulse voltage. The values of table 16 are applicable.	EL1523-10		
	The clearance at the terminals of tubular sheathed heating elements may be reduced to 1.0 mm if the microenvironment is pollution degree 1.	EL1523-11		
	Lacquered conductors of windings are assumed to be bare conductors but the clearances specified in table 16 are reduced by 0.5 mm for rated impulse voltages of at least 1 500 V.	EL1523-12		
29.1.2	Clearances of supplementary insulation shall be not less than those specified for basic insulation in table 16	EL1523-13		

29.1.3	Clearances of reinforced insulation shall be not less than those specified for basic insulation in table 16, but using the next higher step for rated impulse voltage as a reference.	EL1523-14		
29.1.4	For functional insulation, the values of table 16 are applicable. However, clearances are not specified if the appliance complies with clause 19 with the functional insulation short-circuited. Clearances at crossover points of lacquered conductors are not measured	EL1523-15		
	The clearance between surfaces of PTC heating elements may be reduced to 1 mm			
29.1.5	For appliances having higher working voltages than rated voltage, for example on the secondary side of a step-up transformer, or if there is a resonant voltage, the voltage used for determining clearances from Table 16 shall be the sum of the rated impulse voltage and the difference between the peak value of the working voltage and the peak value of the rated voltage	EL1523-16		
	For circuits supplied with a voltage lower than rated voltage, for example on the secondary side of a transformer, clearances of functional insulation are based on the working voltage, which is used as the rated voltage in table 15.	EL1523-17		
29.2	Appliances shall be constructed so that creepage distances are not less than those appropriate for the working voltage, taking into account the material group and the pollution degree.	EL1523-18		
	Pollution degree 2 applies unless			
	a) precautions have been taken to protect the insulation, in which case pollution degree 1 applies;	EL1523-19		
	b) the insulation is subjected to conductive pollution, in which case pollution degree 3 applies.	EL1523-20		

	Parts such as hexagonal nuts that can be tightened to different positions during assembly, and movable parts, are placed in the most unfavorable position.			
	A force is applied to bare conductors, other than those of heating elements, and accessible surfaces to try to reduce creepage distances when making the measurement. The force is			
	a) A force of 2 N is applied to bare conductors, other than heating elements:	EL1523-21		
	b) 30 N, for accessible surfaces	EL1523-22		
	The force is applied by means of test probe B of IEC 61032			
	The relationship between the material group and the comparative tracking index (CT1) values, as given in 4.8.1.3 of IEC60664-1:2007, is as follows	EL1523-23		
	material group I: 600 ≤ CTI;			
	material group II: 400 ≤ CTI < 600			
	material group IIIa: 175 ≤ CTI < 400			
	material group IIIb: 100 ≤ CTI < 175			
	These CTI values are obtained in accordance with IEC 60112:2003/AMD1:2009 using solution A. If the CTI value of the material is unknown, a proof tracking index (PTI) test in accordance with annex N is carried out at the CTI values specified, in order to establish the material group	EL1523-24		
29.2.1	Creepage distances of basic insulation shall not be less than those specified in table 17.	EL1523-25		
	However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from Table 2 of IEC 60664-4:2005, these values being used if exceeding the values in Table 17			

	Except for pollution degree 1, if the test of clause 14 has been used to check a particular clearance, the corresponding creepage distance shall not be less than the minimum dimension specified for the clearance of table 16			
29.2.2	Creepage distances of supplementary insulation at least those specified for basic insulation in Table 17, excluding NOTE 1 and NOTE 2, or Table 2 of IEC 60664-4:2005, as applicable	EL1523-26		
29.2.3	Creepage distances of reinforced insulation shall be at least double those specified for basic insulation in table 17 excluding NOTE 1 and NOTE 2, or Table 2 of IEC 60664-4:2005, as applicable	EL1523-27		
29.2.4	Creepage distances of functional insulation shall be not less than those specified in table 18. However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from Table 2 of IEC 60664-4:2005, these values being used if exceeding the values in Table 18	EL1523-28		
29.3	Supplementary insulation and reinforced insulation shall have adequate thickness, or have a sufficient number of layers, to withstand the electrical stresses that can be expected during the use of the appliance.			
	a) measurement, in accordance with 29.3.1, or by	EL1523-29		
	b) an electric strength test in accordance with 29,3.2, if the insulation consists of more than one separate layer, other than natural mica or similar flakey material, or by	EL1523-30		

	c) an assessment of the thermal quality of the material combined with an electric strength test, in accordance with 29.3.3, for each single layer internal wiring insulation touching each other, or as specified in subclause 6.3 of IEC 60664-4:2005 for insulation that is subjected to any periodic voltage having a frequency exceeding 30 kHz	EL1523-31		
29.3.1	The thickness of the insulation shall be at least			
	a) 1 mm for supplementary insulation; and	EL1523-32		
	b) 2 mm for reinforced insulation	EL1523-33		
29.3.2	Each layer of material shall withstand the electric strength test of 16.3 for supplementary insulation. Supplementary insulation shall consist of at least 2 layers of material and reinforced insulation of at least 3 layers,	EL1523-34		
29.3.3	The insulation is subjected to the dry heat test Bb of IEC 60068-2-2, followed by the electric strength test of 16.3	EL1523-35		
	If the temperature rise of the insulation measured during the tests of 19 does not exceed the value specified in Table 3, the test of IS 9000 (Part 3/Sec 1) is not carried out.			
29.3.4	Thickness of accessible parts of reinforced insulation consisting of a single layer not less than specified in Table 19 :	EL1523-36		

Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 37
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1524-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
30	Resistance to heat and fire	EL1524-00		
30.1	External parts of non-metallic material, parts of insulating material supporting live parts including connections, and parts of thermoplastic material providing supplementary insulation or reinforced insulation, shall be sufficiently resistant to heat if their deterioration could cause the appliance to fail to comply with this standard	EL1524-01		
	This requirement does not apply to the insulation or sheath of flexible cords or internal wiring, those parts of coil formers that do not support or retain terminals in position, parts of ceramic material			
	The test is carried out at a temperature of 40 °C ± 2 °C plus the maximum temperature rise determined during the test of clause 11, but it shall be at least	EL1524-02		
	a) 75 °C ± 2 °C, for external parts;	EL1524-03		
	b) 125 °C ± 2 °C, for parts supporting live parts.	EL1524-04		
	However, for parts of thermoplastic material providing supplementary insulation or reinforced insulation, the test is carried out at a temperature of 25 °C ± 2 °C plus the maximum temperature rise determined during the tests of clause 19, if this is higher. The temperature rises of 19.4 are not taken into account provided that the test is terminated by the operation of a non-self-resetting protective device and it is necessary to remove a cover or use a tool to reset it.	EL1524-05		
30.2	Parts of non-metallic material shall be resistant to ignition and spread of fire.	EL1524-06		

	This requirement does not apply to a) parts of a mass not exceeding 0,5 g, provided the cumulative effect is unlikely to propagate flames that originate inside the appliance by propagating flames from one part to another, or decorative trims, knobs and other parts unlikely to be ignited or to propagate flames that originate inside the appliance.			
	Compliance is checked by the test of 30.2.1. In addition	EL1524-07		
	a)for attended appliances, 30.2.2 is applicable	EL1524-08		
	b) for unattended appliances, 30.2.3 is applicable	EL1524-09		
	c) For parts of appliances connected to the supply mains during charging, 30.2.3 applies	EL1524-10		
	For the base material of printed circuit boards, compliance is checked by the test of 30.2.4	EL1524-11		
	The tests are carried out on parts of non-metallic material that have been removed from the appliance. When the glow-wire test is carried out, they are placed in the same orientation as they would be in normal use	EL1524-12		
	For appliances that allow a pre – selected start time and those with a keep – warm functions, 30.2.3 is applicable. For other appliances, 30.2.2 is applicable.			
30.2.1	Parts of non-metallic material subjected to the glow-wire test of IEC 60695-2-11:2014 at 550 °C	EL1524-13		
	The glow-wire test is 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, the material is classified at least HB40 according to IEC 60695-11-10	EL1524-14		
	Parts for which the glow-wire test cannot be carried out need to meet the requirements in ISO 9772 for material classified HBF	EL1524-15		

30.2.2	For appliances that are operated while attended, parts of insulating material supporting current-carrying connections, and parts of insulating material within a distance of 3 mm of such connections, are subjected to the glow-wire test of IEC 60695-2-11:2014 with appropriate severity level			
	a) 750 °C, for connections carrying a current exceeding 0,5 A during normal operation Note: Appliance supplied at rated voltage (V)	EL1524-16		
	b) 650 °C, for other connections	EL1524-17		
	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			
	a) 750 °C, for connections carrying a current exceeding 0,5 A during normal operation Note: Appliance supplied at rated voltage (V)			
	b) 650 °C, for other connections			
	c) The glow-wire test is also not carried out on small parts. These parts -comprise material having a glow-wire flammability index of at least 750 °C, or 650 °C as appropriate, or comply with the needle-flame test of normative Annex E - comply with the needle-flame test of normative Annex E, or - Glow-wire test not applicable to conditions as specified			
30.2.3	Appliances that are operated while unattended are tested as specified in 30.2.3.1 and 30.2.3.2. However, the tests are not applicable to:	EL1524-18		
	a) parts supporting welded connections			
	b) parts supporting connections in low-power circuits described in 19.11.1;			

	c) soldered connections on printed circuit boards			
	d) connections on small components that are mounted on printed circuit boards; and			
	e) parts within 3 mm of any of these connections.			
30.2.3.1	Parts of insulating material supporting connections that carry a current exceeding 0.2 A during normal operation, and parts of insulating material within a distance of 3 mm of such connections, subjected to the glow-wire test of IEC 60695-2-11:2014 with a test severity of 850 °C, the test sample being no thicker than the relevant part. 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	EL1524-19		
30.2.3.2	Parts of insulating material supporting current-carrying connections, and parts of insulating material within a distance of 3 mm of such connections, subjected to the glow-wire test of IEC 60695-2-11:2014 with appropriate severity level	EL1524-20		
	a) 750 °C, for connections which carry a current exceeding 0,2 A during normal operation			
	b) 650 °C, for other connections,			
	c) provided that the test sample was no thicker than the relevant part			
	However, the glow-wire test of 750 °C or 650 °C as appropriate, is not carried out on parts of material fulfilling both or either of the following classifications:	EL1524-21		
	a glow wire ignition temperature according to 60695-2-13: a) 775 °C as, for connections carrying a current exceeding 0,2 A during normal operation Note: Appliance supplied at rated voltage (V)			
	b) 675 °C, for other connections.			

	The glow-wire test of 60695-2-11:2014 with a test severity of 750 °C, or 650 °C is also not carried out on small parts. These parts -comprise material having a glow-wire ignition temperature at least 775 °C, or 675°C as appropriate; or - comprise material having a glow-wire flammability index of at least 750°C or 650°C as appropriate; or comply with the needle-flame test of normative Annex E	EL1524-22		
	The needle-flame test is not carried out on parts of material classified as V-0 or V-I according to IEC 60695-11-10 provided that the test sample was no thicker than the relevant part	EL1524-23		
30.2.4	The base material of printed circuit boards is subjected to the needle-flame test of Annex E. The flame is applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use	EL1524-24		
	The Test is not carried out:			
	a) on printed circuit boards of low-power circuits described in 19.11.1;			
	b) on the printed circuit boards in: 1) a metal enclosure that confines flames or burning droplets;			
	2) hand-held appliances;			
	3) appliances that have to be kept switched on by hand or foot;			
	4)appliances that are continuously loaded by hand			
	C) if the material is classified as V-0, provided that the test sample was no thicker than the printed circuit board			

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 25
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1525-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
31	Resistance to rusting	EL1525-00		
	Ferrous parts, the rusting of which might cause the appliance to fail to comply with this standard, shall be adequately protected against rusting	EL1525-01		

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 02
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1526-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
32	Radiation, toxicity and similar hazards	EL1526-00		
32.1	Appliances shall not emit harmful radiation or present a toxic or similar hazard	EL1526-01		
	Compliance is checked by the limits or tests specified in part 2, if relevant	EL1526-02		
32.2	Appliance do not present an optical radiation hazard due to their operation in normal use	EL1526-3		
	Requirement does not apply to lamps and lamp systems that comply with 24.1.10	EL1526-04		

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 05
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1527-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
A	ANNEX A ROUTINE TESTS	EL1527-00		
	Description of routine tests to be carried out by the manufacturer	EL1527-01		

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 02
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1528-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
B	ANNEX B (NORMATIVE) APPLIANCES POWERED BY RECHARGEABLE BATTERIES	EL1528-00		
	The following modifications to this standard are applicable for appliances powered by batteries that are recharged in the appliance.*	EL1528-01		
	This annex does not apply to battery chargers.*	EL1528-02		
3.1.9	Appliance operated under the following conditions:			
	-the appliance, supplied by its fully charged battery, operated as specified in relevant part 2	EL1528-03		
	-the battery is charged, the battery being initially discharged to such an extent that the appliance cannot operate	EL1528-04		
	-if possible, the appliance is supplied from the supply mains through its battery charger, the battery being initially discharged to such an extent that the appliance cannot operate. The appliance is operated as specified in relevant part 2	EL1528-05		
	If the appliance incorporates inductive coupling between two parts that are detachable from each other, the appliance is supplied from the supply mains with the detachable part removed	EL1528-06		
3.6.2	Part to be removed in order to discard the battery is not considered to be detachable	EL1528-07		
5.101	Appliances supplied from the supply mains tested as specified for motor-operated appliances	EL1528-08		
7.1	Battery compartment for batteries intended to be replaced by the user, marked with battery voltage and polarity of the terminals.*	EL1528-09		

7.12	The instructions for appliances incorporating batteries intended to be replaced by the user include required information.*	EL1528-10		
	Details about how to remove batteries containing materials hazardous to the environment given.*	EL1528-11		
7.15	Markings placed on the part of the appliance connected to the supply mains	EL1528-12		
8.2	Appliances having batteries that according to the instruction may be replaced by the user need only have basic insulation between live parts and the inner surface of the battery compartment.*	EL1528-13		
	If the appliance can be operated without batteries, double or reinforced insulation required.*	EL1528-14		
11.7	The battery is charged for the period described	EL1528-15		
19.1	Appliances subjected to tests of 19.101, 19.102 and 19.103	EL1528-16		
19.101	Appliances supplied at rated voltage for 168 h, the battery being continually charged	EL1528-17		
19.102	Short-circuiting of the terminals of the battery, being fully charged, for appliances having batteries that can be removed without the aid of a tool	EL1528-18		
19.103	Appliances having batteries replaceable by the user supplied at rated voltage under normal operation with the battery removed or in any position allowed by the construction	EL1528-19		
21.101	Appliances having pins for insertion into socket-outlets have adequate mechanical strength, checked according to procedure 2 of IS 9000 (Part 7/ Sec 4)			
	a) 100, the mass of part does not exceed 250 g	EL1528-20		
	b) 50, the mass of part exceeds 250 g	EL1528-21		
	After the test, the requirements of 8.1, 15.1.1, 16.3 and clause 29 shall be met	EL1528-22		

22.3	Appliances having pins for insertion into socket-outlets tested as fully assembled as possible	EL1528-23		
25.13	An additional lining or bushing not required for interconnection cords operating at safety extra-low voltage	EL1528-24		
30.2	For parts of the appliance connected to the supply mains during the charging period, 30.2.3 applies	EL1528-25		
	For other parts, 30.2.2 applies	EL1528-26		

*Total number of Requirements to be observed / inspected = 07
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 20
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1529-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
C	ANNEX C AGEING TEST ON MOTORS	EL1529-00		
	Tests, as described, carried out when doubt with regard to the temperature classification of the insulation of a motor winding	EL1529-01		

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 02
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1530-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
D	ANNEX D THERMAL MOTOR PROTECTORS	EL1530-00		
	Applicable to appliances having motors that incorporate thermal motor protectors	EL1530-01		

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 02
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1531-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
E	ANNEX E NEEDLE-FLAME TEST	EL1531-00		
	Needle-flame test carried out in accordance with IS 11000 (Part 2 / Sec 2), with the following modifications:	EL1531-01		
7	Severities			
	The duration of application of the test flame is 30 s ± 1 s	EL1531-02		
8	Test procedure	EL1531-03		
8.2	The specimen is arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1	EL1531-04		
8.4	The first paragraph does not apply			
	If possible, the flame is applied at least 10 mm from a corner	EL1531-05		
8.5	The test is carried out on one specimen	EL1531-06		
	If the specimen does not withstand the test, the test may be repeated on two additional specimens, both withstanding the test	EL1531-07		

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 08
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1532-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
F	ANNEX F CAPACITORS	EL1532-00		
	Capacitors likely to be permanently subjected to the supply voltage, and used for radio interference suppression or voltage dividing, comply with the following clauses of IEC 60384-14, with the following modifications:	EL1532-01		
1.5	Terminology			
1.5.3	Class X capacitors tested according to subclass X2			
1.5.4	This sub clause is applicable			
1.6	Marking*	EL1532-02		
	Items a) and b) are applicable			
3.4	Approval testing	EL1532-03		
3.4.3.2	Table II is applicable as described	EL1532-04		
4.1	Visual examination and check of dimensions	EL1532-05		
	This sub clause is applicable			
4.2.1	This sub clause is applicable	EL1532-06		
4.2.5	This sub clause is applicable	EL1532-07		
4.2.5.2	Only table IX is applicable	EL1532-08		
	Values for test A apply			
	However, for capacitors in heating appliances the values for test B or C apply			
4.12	Damp heat, steady state	EL1532-09		
	This sub clause is applicable			
	Only insulation resistance and voltage proof are checked			
4.13	Impulse voltage	EL1532-10		
	This sub clause is applicable			
4.14	Endurance	EL1532-11		
	Sub-clauses 4.14.1, 4.14.3, 4.14.4 and 4.14.7 applicable			
4.14.7	Only insulation resistance and voltage proof are checked	EL1532-12		

	Visual examination, no visible damage			
4.17	Passive flammability test	EL1532-13		
	This sub clause is applicable			
4.18	Active flammability test	EL1532-14		
	This sub clause is applicable			

*Total number of Requirements to be observed / inspected = 01
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 14
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1533-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
G	ANNEX G SAFETY ISOLATING TRANSFORMERS	EL1533-00		
	The following modifications to this standard are applicable for safety isolating transformers:			
7	Marking and instructions *	EL1533-01		
7.1	Transformers for specific use marked with:			
	a) name, trademark or identification mark of the manufacturer or responsible vendor *	EL1533-02		
	b) model or type reference *	EL1533-03		
17	Overload protection of transformers and associated circuits	EL1533-04		
	Fail-safe transformers comply with subclause 15.5 of IS/IEC 61558-1	EL1533-05		
22	Construction	EL1533-06		
	19.1 and 19.1.2 of IS/IEC 61558-2-6 are applicable	EL1533-07		
29	Clearances, creepage distances and solid insulation	EL1533-08		
29.1, 29.2 and 29.3	The distances specified in items 2a, 2c and 3 in table 13 of IS/IEC 61558-1 apply	EL1533-09		

*Total number of Requirements to be observed / inspected = 03
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 07
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1534-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
H	ANNEX H (NORMATIVE) SWITCHES	EL1534-00		
	Switches comply with the following clauses of IEC 61058-1, as modified:			
	The tests of IEC 61058-1 carried out under the conditions occurring in the appliance	EL1534-01		
	Before being tested, switches are operated 20 times without load	EL1534-02		
8	Marking and documentation *	EL1534-03		
	Switches are not required to be marked *	EL1534-04		
	However, switches that can be tested separately from the appliance marked with the manufacturer’s name or trade mark and the type reference*	EL1534-05		
13	Mechanism	EL1534-06		
	The tests may be carried out on a separate sample			
15	Insulation resistance and dielectric strength	EL1534-07		
15.1	Not applicable			
15.2	Not applicable			
15.3	Applicable for full disconnection and micro-disconnection	EL1534-08		
17	Endurance	EL1534-09		
	Compliance is checked on three separate appliances or switches	EL1534-10		
	For 17.2.4.4, the number of cycles is 10 000, unless otherwise specified in 24.1.3 of the relevant part 2 of this standard	EL1534-11		
	Switches for operation under no load and which can be operated only by a tool and switches operated by hand that are interlocked so that they cannot be operated under load. However, switches without this interlock are subjected to the test of 17.2.4.4 for 100 cycles of operation.	EL1534-12		

	17.2.2 and 17.2.5.2 not applicable. The ambient temperature during the test is that occurring in the appliance during the test of Clause 11, as specified in footnote2 of Table 3.	EL1534-13		
	Temperature rise of the terminals shall not be increased by more than 30 K above the temperature rise measured in 11.	EL1534-14		
20	Clearances, creepage distances, solid insulation and coatings of rigid printed board assemblies	EL1534-15		
	This clause is applicable to clearances and creepage distances for functional insulation, across full disconnection and micro-disconnection, as stated in table 24			

*Total number of Requirements to be observed / inspected = 03
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 13
Total No. of Applicable Tests = 00
No. of testsfor which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1535-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
I	ANNEX I MOTORS HAVING BASIC INSULATION THAT IS INADEQUATE FOR THE RATED VOLTAGE OF THE APPLIANCE	EL1535-00		
	The following modifications to this standard are applicable for motors having basic insulation that is inadequate for the rated voltage of the appliance:			
8	Protection against access to live parts	EL1535-01		
8.1	Metal parts of the motor are considered to be bare live parts	EL1535-02		
11	Heating			
11.3	Temperature rise of the body of the motor is determined instead of the temperature rise of the windings	EL1535-03		
11.8	Temperature rise of the body of the motor, where in contact with insulating material, not exceeding values in table 3 for the relevant insulating material	EL1535-04		
16	Leakage current and electric strength			
16.3	Insulation between live parts of the motor and its other metal parts not subjected to the test	EL1535-05		
19	Abnormal operation			
19.1	The tests of 19.7 to 19.9 not carried out.	EL1535-06		
	Appliances are also subjected to test of 19.101	EL1535-07		
19.101	Appliance operated at rated voltage with each of the following fault conditions:			
	a) short circuit of the terminals of the motor, including any capacitor incorporated in the motor circuit	EL1535-08		
	b) short circuit of each diode of the rectifier	EL1535-09		
	c) open circuit of the supply to the motor	EL1535-10		

	d) open circuit of any parallel resistor, the motor being in operation	EL1535-11		
	Only one fault simulated at a time, the tests carried out consecutively			
22	Construction			
22.101	For class I appliances incorporating a motor supplied by a rectifier circuit, the d.c. circuit being insulated from accessible parts of the appliance by double or reinforced insulation	EL1535-12		
	Compliance checked by the tests specified for double and reinforced insulation	EL1535-13		

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 14
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1536-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
J	ANNEX J COATED PRINTED CIRCUIT BOARDS	EL1536-00		
	Testing of protective coatings of printed circuit boards carried out in accordance with IS 15382 (Part 3) with the following modifications:	EL1536-01		
6.6	Climatic Sequence	EL1536-02		
	When production samples are used, three samples of the printed circuit board are tested	EL1536-03		
6.6.1	Cold	EL1536-04		
	The test is carried out at -25°C			
6.6.3	Rapid change of temperature	EL1536-05		
	Severity 1 is specified			
6.8.6	Partial Discharge Extinction Voltage	EL1536-06		
	Type A coatings are not subjected to a partial discharge test.			
6.9	Additional tests	EL1536-07		
	This sub-clause is not applicable			

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 08
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1537-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
K	ANNEX K OVERVOLTAGE CATEGORIES	EL1537-00		
	The information on overvoltage categories is extracted from IS 15382 (Part 1)	EL1537-01		
	Overvoltage category is a numeral defining a transient overvoltage condition	EL1537-02		
	Equipment of overvoltage category IV is for use at the origin of the installation	EL1537-03		
	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	EL1537-04		
	Equipment of overvoltage category II is energy consuming equipment to be supplied from the fixed installation	EL1537-05		
	If such equipment is subjected to special requirements with regard to reliability and availability, overvoltage category III applies	EL1537-06		
	Equipment of overvoltage category I is equipment for connection to circuits in which measures are taken to limit transient over voltages to an appropriate low level	EL1537-07		

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 08
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1538-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
L	ANNEX L GUIDANCE FOR THE MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES	EL1538-00		
	Sequences for the determination of clearances and creepage distances	EL1538-01		

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 02
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/~~failing~~ in the requirement tested.

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(Approving Authority)

EL 1539-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
M	ANNEX M POLLUTION DEGREE	EL1539-00		
	The information on pollution degrees is extracted from IS 15382 (Part 1)	EL1539-01		
	Pollution	EL1539-02		
	The microenvironment determines the effect of pollution on the insulation, taking into account the microenvironment	EL1539-03		
	Means may be provided to reduce pollution at the insulation by effective enclosures or similar	EL1539-04		
	Minimum clearances specified where pollution may be present in the microenvironment	EL1539-05		
	Degrees of pollution in the microenvironment	EL1539-06		
	For evaluating creepage distances, the following degrees of pollution in the microenvironment are established:	EL1539-07		
	a) pollution degree 1: no pollution or only dry, non-conductive pollution occurs. The pollution has no influence	EL1539-08		
	b) pollution degree 2: only non-conductive pollution occurs, except that occasionally a temporary conductivity caused by condensation is to be expected	EL1539-09		
	c) pollution degree 3: conductive pollution occurs or dry non-conductive pollution occurs that becomes conductive due to condensation that is to be expected	EL1539-10		
	d) pollution degree 4: the pollution generates persistent conductivity caused by conductive dust or by rain or snow	EL1539-11		

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 12
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1540-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
N	ANNEX N PROOF TRACKING TEST	EL1540-00		
	The proof tracking test is carried out in accordance with IS 2824 with the following modifications:	EL1540-01		
7	Test apparatus	EL1540-02		
7.3	Test solutions	EL1540-03		
	Test solution A is used	EL1540-04		
10	Determination of proof tracking index (PTI)	EL1540-05		
10.1	Procedure	EL1540-06		
	The proof voltage is 100V, 250V, 175V, 400V or 600V as appropriate	EL1540-07		
	The last paragraph of Clause 3 applies	EL1540-08		
	The test is carried out on five specimens	EL1540-09		
	In case of doubt, additional test with proof voltage reduced by 25V, the number of drops increased to 100	EL1540-10		
10.2	Report	EL1540-11		
	The report stating if the PTI value was based on a test using 100 drops with a test voltage of (PTI-25) V	EL1540-12		

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 13
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1541-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
O	ANNEX O SELECTION AND SEQUENCE OF THE TESTS OF CLAUSE 30	EL1541-00		
	Description of tests for determination of resistance to heat and fire	EL1541-01		

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 02
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1542-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
P	ANNEX P GUIDANCE FOR THE APPLICATION OF THIS STANDARD TO APPLIANCES USED IN WARM DAMP EQUABLE CLIMATES	EL1542-00		
	Modifications applicable for class 0 and 01 appliances having a rated voltage exceeding 150V, intended to be used in countries having a warm damp equable climate and that are marked WDaE	EL1542-01		
	Modifications may also be applied to class 1 appliances having a rated voltage exceeding 150V, intended to be used in countries having a warm damp equable climate and that are marked WDaE, if liable to be connected to a supply mains that excludes the protective earthing conductor	EL1542-02		
5	General conditions for the tests			
5.7	The ambient temperature for the tests of Clauses 11 and 13 is 40 +3/0 °C	EL1542-03		
7	Marking and instructions			
7.1	The appliance marked with the letters WDaE*	EL1542-04		
7.12	The instructions state that the appliance is to be supplied through a RCD having a rated residual operating current not exceeding 30 mA*	EL1542-05		
	The instructions state that the appliance is considered to be suitable for use in countries having a warm damp equable climate, but may also be used in other countries*	EL1542-06		
11	Heating	EL1542-07		
11.8	The values of Table 3 are reduced by 15 K			
13	Leakage current and electric strength at operating temperature	EL1542-08		

13.2	The leakage current for class I appliances not exceeding 0,5 mA			
15	Moisture resistance	EL1542-09		
15.3	The value of t is 37 °C			
16	Leakage current and electric strength	EL1542-10		
16.2	The leakage current for class I appliances not exceeding 0.5 mA			
19	Abnormal operation	EL1542-11		
19.13	The leakage current test of 16.2 is applied in addition to the electric strength test of 16.3			

*Total number of Requirements to be observed / inspected = 03
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed = 00

Total number of tests to be conducted = 09
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

.....
(Approving Authority)

EL 1543-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
Q	ANNEX Q (INFORMATIVE) SEQUENCE OF TESTS FOR THE EVALUATION OF ELECTRONIC CIRCUITS	EL1543-00		
	Description of tests for appliances incorporating electronic circuits	EL1543-01		

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement =
No of Requirements for which the sample passed =

Total number of tests to be conducted = 02
Total No. of Applicable Tests =
No. of tests for which the sample passed =

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

.....
(Approving Authority)

EL 1544-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
R	ANNEX R (NORMATIVE) SOFTWARE EVALUATION	EL1544-00		
	Software evaluated in accordance with the following clauses of Annex H of IEC 60730-1, as modified	EL1544-01		
H.2	Definitions	EL1544-02		
	Only definitions H.2.16 to H.2.20 applicable	EL1544-03		
H.7	Information	EL1544-04		
	Only footnotes 12) to 18) of Table 7.2, as modified, applicable	EL1544-05		
H.11.12	Controls using software	EL1544-06		
	All the sub clauses of H.11.12, as modified, except H.11.12.6 and H.11.12.6.1, applicable	EL1544-07		
H.11.12.7	Delete text	EL1544-08		
H.11.12.7.1	For appliances using software class C having a single channel with self-test and monitoring structure, the manufacturer provides the measures necessary to address the fault/errors in safety related segments and data	EL1544-09		
H.11.12.8	Software fault/error detection occurs before compliance with 19.13 of IEC 60335-1 is impaired	EL1544-10		
H.11.12.8.1	Replace text	EL1544-11		
H.11.12.13	Software and safety related hardware under its control initializes and terminates before compliance with 19.13 of IEC 60335-1 is impaired	EL1544-12		

*Total number of Requirements to be observed / inspected = 00
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed =00

Total number of tests to be conducted = 13
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/failing in the requirement tested.

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(Approving Authority)

EL 1545-V1.0

Clause No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
S	ANNEX S (NORMATIVE) BALL PRESSURE TEST	EL1545-00		
S-1	TEST APPARATUS , consists essentially of the elements listed below	EL1545-01		
S-1.1	Loading Device			
	With the test specimen at the specified temperature, downward force is applied through a steel ball by means of a loading device (see Fig. 13). The apparatus is so designed as to achieve a downward force equivalent to a 20N ± 0.2N load including the mass of the pressure ball.	EL1545-02		
S-1.2	Test Specimen support			
	The test specimen support shall be such that if rigidly supports the test specimen in a horizontal position, has sufficient strength to support the loading device, has a smooth flat surface, has sufficiently large mass to prevent a significant reduction in temperature of the test apparatus during the installation and removal of the test specimen from the heating oven,	EL1545-03		
	A solid steel cylinder with a flat smooth mounting surface 50 mm in diameter and 100 mm in height has been found adequate for the test specimen support.	EL1545-04		
	It has been found useful to mount a separate thermocouple in the centre of the test specimen support approximately 3 mm below the surface to check that the temperature of the test specimen support does not significantly deviate from the test temperature.	EL1545-05		
S-1.3	Heating Oven			
	The heating Oven for conditioning of the sample shall be a single chamber type with adequate air temperature distribution	EL1545-06		
S-1.4	Optical Measuring Instrument			

	The measuring instrument shall have an optical magnification between 10 X and 20 X and shall incorporate a calibrated reticule or cross-travel measuring table. A lighting device can be used to illuminate the surface where the pressure ball was applied.	EL1545-07		
S-2	TEST SPECIMENS			
	Cut a test specimen from the product in such a way that a piece at least 2.5 mm thick with approximately parallel upper and lower surfaces is obtained. If necessary, the thickness may be attained by stacking two or more sections. If it is not possible to cut a test specimen with parallel surfaces, care shall be taken to support the area of the test specimen directly under the pressure ball. The test specimen shall be a square with a minimum of 10 mm sides or a circle with a diameter of at least 10 mm.	EL1545-08		
	The plaque shall have a thickness of 3.0 ± 0.5 mm and shall be at least a square with 10 mm sides or a circle with a diameter of at least 10mm.	EL1545-09		
S-3	CONDITIONING			
	The test specimen is stored for at least 24 h in an atmosphere having a temperature between 15° C and 35° C and a relative humidity between 45 percent and 75 percent before the test.	EL1545-10		
S-4	TEST PROCEDURE			
S-4.1	Conduct the test in air, in a heating oven (see S-1.3) at the temperature specified in 30.1. The heating oven, test specimen support and loading device shall be maintained at the test temperature for 24 h or until thermal equilibrium is reached, whichever occurs sooner. When thermal equilibrium conditions are reached, place the test specimen on the approximate centre of the test specimen support so that its upper surface is horizontal. Gently lower the pressure ball on to the approximate centre of the test specimen. Ensure that no conditions exist that will cause the pressure ball to move other than in a downward direction during the test.	EL1545-11		

	The installation of the test specimen shall be performed in as short a time as practicable to ensure that there is no significant temperature drop of the heating oven and test specimen support.	EL1545-12		
	Following a period of 60 ±20min, remove the pressure ball from the test specimen and within 10 s immerse the test specimen in water maintained at 20 ±5° C	EL1545-13		
	Following an immersion period of 6 ±2 min remove the test specimen from the water and eliminate all traces of water.	EL1545-14		
S-4.2	Within 3 min of removal from the water measure dimension d as shown in Fig. S-1, to one decimal place using the optical measuring instrument described in S-1.4. Dimension d is the greatest dimension across the indentation caused by the pressure ball.	EL1545-15		
	The spherical portion of the indentation left by the pressure ball (dimension d) shall exclude any material deformation as shown in Fig. S-1 D. In case of doubt, make two further tests on two other test specimens both of which shall meet the requirement of S-6.	EL1545-16		
S-5	OBSERVATIONS AND MEASUREMENTS			
	The following shall be observed during the test and recorded:	EL1545-17		
	Origin of the test specimen*	EL1545-18		
	Material type or component/part description*	EL1545-19		
	Thickness of the test specimens (and quantity of any stacked test specimens)	EL1545-20		
	Location on the test specimen where the test(s) were carried out			
	Details of conditioning	EL1545-21		
	Temperature of the test; and	EL1545-22		
	Value of dimension d	EL1545-23		

*Total number of Requirements to be observed / inspected = 02
Total No. of Applicable Requirement = 00
No of Requirements for which the sample passed =00

Total number of tests to be conducted = 22
Total No. of Applicable Tests = 00
No. of tests for which the sample passed = 00

Certificate: It is certified that the above tests were performed and found to be passing/~~failing~~ in the requirement tested .

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(Approving Authority)

10.1	TABLE: Power input deviation				
Input deviation of/at:	P rated (W)	P measured (W)	dP (W,%)	Required dP (W,%)	Remark
Supplementary information:					

10.2	TABLE: Current deviation				
Current deviation of/at:	I rated(A)	I measured(A)	dI(A,%)	Required dI(A,%)	Remark
Supplementary information:					

11.8	TABLE: Heating test, thermocouples		
	Test voltage (V) ..... :		—
	Ambient (°C) ..... :		—

Thermocouple locations	dT (K)	Max. dT (K)
Supplementary information:		

11.8	TABLE: Heating test, resistance method		
	Test voltage (V).....:	--	—
	Ambient, t_1 (°C).....:	--	—
	Ambient, t_2 (°C).....:	--	—

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

Note:

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

Supplementary information:

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

13.2	TABLE: Leakage current		
	Heating appliances: 1.15 x rated input ..... :	--	—
	Motor-operated and combined appliances: 1.06 x rated voltage..... :		—

Leakage current between	I (mA)	Max. allowed I (mA)

Supplementary information: Tested at frequency 50Hz

Leakage current between	I (mA)	Max. allowed I (mA)

Supplementary information:

13.3	TABLE: Electric strength	

Test voltage applied between:	Voltage (V)	Breakdown (Yes/No)
Supplementary information:		

16.2	TABLE: Leakage current		
	Single phase appliances: 1.06 x rated voltage .... :		—
	Three phase appliances 1.06 x rated voltage divided by √3: ..... :	–	—

Leakage current I between	I (mA)	Max. allowed I (mA)
Supplementary information:		
Leakage current I between	I (mA)	Max. allowed I (mA)
Supplementary information:		

16.3	TABLE: Electric strength	

Test voltage applied between:	Voltage (V)	Breakdown (Yes/No)
Supplementary information:		

17	TABLE: Overload protection, thermocouple measurements	

Temperature rise of part/at:	dT(K)	Max. dT(K)
Supplementary information:		

19	TABLE: fault condition tests						
	Ambient temperature (°C) .....:		See Result				
No.	Component No.	Fault	Test voltage (V)	Test time	Fuse No.	Fuse current (A)	Result
Supplementary information:							

19.13	TABLE: Abnormal operation, temperature rises	
Thermocouple locations	Max. Temperature rise measured dT(K)	Max. Temperature rise limit dT(K)
Supplementary information:		

Table 25.25	Table: Plug Dimensions					
Type of Plug: ☐ Two pin or ☐ Two pin with dummy earth pin or ☐ Three pin						
Reference points	Ratings					
	☐2.5A		☐6A/10A		☐16A	
	Limits	Measured	Limits	Measured	Limits	Measured
A	---	--	22.2 ± 0.15	--	28.6 ± 0.15	--
B	19.10 ± 0.15	--	19.1 ± 0.15	--	25.4 ± 0.15	--
C	----	--	7.06 +0.025 -0.050	--	8.71 +0.025 -0.050	--
D	5.08 +0.025 -0.050	--	5.08 +0.025 -0.050	--	7.06 +0.025 -0.050	--
E	15.9 +1.04	--	15.9 +1.04	--	20.6 +1.04	--

	-0.13		-0.13		-0.13	
F	----	--	20.6 +1.04 -0.13	--	28.6 +1.04 -0.13	--
G	7.94(min)	--	7.94(min)	--	9.52 (min.)	--
H	5.16 to 7.54	--	5.16 to 7.54	--	6.76 to 9.12	--
Supplementary information: Above Dimensional limits are as per IS 1293:2019 in mm						

28.1	TABLE: Threaded part torque test		
Threaded part identification	Diameter of thread (mm)	Column number (I, II, or III)	Applied torque (Nm)
Supplementary information:			

29.1	TABLE: Clearances					
	Overvoltage category:	II				—
		Type of insulation:				
Rated impulse voltage (V):	Min. cl (mm)	Basic	Functional	Supplementary	Reinforced	Verdict / Remark
330	0,5*/**					
500	0,5*/**					
800	0,5*/**					
1 500	0,5*/**					
2 500	1,5*					
4 000	3,0*					
6 000	5,5*					
8 000	8,0*					
10 000	11,0*					
** The value is increased to 0,8mm for pollution degree 3 * If the construction is affected by wear, distortion, movement of the parts or during assembly, the value is increased by 0,5 mm						

29.2	TABLE: Creepage distances, basic, supplementary and reinforced insulation										
Working voltage (V)	Creepage distance (mm) Pollution degree										
	1	2			3			Type of insulation			
		Material group			Material group						
		I	II	IIIa/IIIb	I	II	IIIa/IIIb	B*)	S*)	R*)	Verdict
≤50	0,2	0,6	0,9	1,2	1,5	1,7	1,9	—	—	—	
≤50	0,2	0,6	0,9	1,2	1,5	1,7	1,9	—	—	—	
≤50	0,4	1,2	1,8	2,4	3,0	3,4	3,8	—	—	—	
>50 and ≤125	0,3	0,8	1,1	1,5	1,9	2,1	2,4	—	—	—	
>50 and ≤125	0,3	0,8	1,1	1,5	1,9	2,1	2,4	—	—	—	
>50 and ≤125	0,6	1,6	2,2	3,0	3,8	4,2	4,8	—	—	—	
>125 and ≤250	0,6	1,3	1,8	2,5	3,2	3,6	4,0	—	—	—	
>125 and ≤250	0,6	1,3	1,8	2,5	3,2	3,6	4,0	—	—	—	
>125 and ≤250	1,2	2,6	3,6	5,0	6,4	7,2	8,0	—	—	—	
>250 and ≤400	1,0	2,0	2,8	4,0	5,0	5,6	6,3	—	—	—	
>250 and ≤400	1,0	2,0	2,8	4,0	5,0	5,6	6,3	—	—	—	
>250 and ≤400	2,0	4,0	5,6	8,0	10,0	11,2	12,6	—	—	—	
>400 and ≤500	1,3	2,5	3,6	5,0	6,3	7,1	8,0	—	—	—	
>400 and ≤500	1,3	2,5	3,6	5,0	6,3	7,1	8,0	—	—	—	
>400 and ≤500	2,6	5,0	7,2	10,0	12,6	14,2	16,0	—	—	—	
>500 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	—	—	—	
>500 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	—	—	—	
>500 and ≤800	3,6	6,4	9,0	12,6	16,0	18,0	20,0	—	—	—	
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	—	—	—	
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	—	—	—	
>800 and ≤1000	4,8	8,0	11,2	16,0	20,0	22,0	25,0	—	—	—	
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	—	—	—	
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	—	—	—	

>1000 and ≤1250	6,4	10,0	14,2	20,0	25,0	28,0	32,0	—	—	—	
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	—	—	—	
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	—	—	—	
>1250 and ≤1600	8,4	12,6	18,0	25,0	32,0	36,0	40,0	—	—	—	
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	—	—	—	
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	—	—	—	
>1600 and ≤2000	11,2	16,0	22,0	32,0	40,0	44,0	50,0	—	—	—	
>2000 and ≤2500	7,5	10,0	14,0	20,0	25, 0	28,0	32,0	—	—	—	
>2000 and ≤2500	7,5	10,0	14,0	20,0	25, 0	28,0	32,0	—	—	—	
>2000 and ≤2500	15,0	20,0	28,0	40,0	50,0	56,0	64,0	—	—	—	
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	—	—	—	
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	—	—	—	
>2500 and ≤3200	20,0	25,0	36,0	50,0	64,0	72,0	80,0	—	—	—	
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	—	—	—	
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	—	—	—	
>3200 and ≤4000	25,0	32,0	44,0	64,0	80,0	90,0	100,0	—	—	—	
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	—	—	—	
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	—	—	—	
>4000 and ≤5000	32,0	40,0	56,0	80,0	100,0	112,0	126,0	—	—	—	
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	—	—	—	
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	—	—	—	

>5000 and ≤6300	40,0	50,0	72,0	100,0	126,0	142,0	160,0	—	—	—	
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	—	—	—	
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	—	—	—	
>6300 and ≤8000	50,0	64,0	90,0	126,0	160,0	180,0	200,0	—	—	—	
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	—	—	—	
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	—	—	—	
>8000 and ≤10000	64,0	80,0	112,0	160,0	200,0	220,0	250,0	—	—	—	
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	—	—	—	
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	—	—	—	
>10000 and ≤12500	80,0	100,0	142,0	200,0	250,0	280,0	320,0	—	—	—	
*), B=Basic, S=Supplementary and R=Reinforced											

29.2	TABLE: Creepage distances, functional insulation							
Working voltage (V)	Creepage distance (mm) Pollution degree							
	1	2			3			
		Material group			Material group			
		I	II	IIIa/IIIb	I	II	IIIa/III	Verdict / Remark
≤50	0,2	0,6	0,8	1,1	1,4	1,6	1,8	
>50 and ≤125	0,3	0,7	1,0	1,4	1,8	2,0	2,2	
>125 and ≤250	0,4	1,0	1,4	2,0	2,5	2,8	3,2	
>250 and ≤400	0,8	1,6	2,2	3,2	4,0	4,5	5,0	
>400 and ≤500	1,0	2,0	2,8	4,0	5,0	5,6	6,3	
>500 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	

>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	

30.1	TABLE: Ball pressure			
Part		Test temperature (°C)	Impression diameter (mm)	Allowed impression diameter (mm)
Supplementary information:				

30.2	TABLE: Resistance to heat and fire - Glow wire tests	

Object/ Part No./ Material	Manufacturer / trademark	Glow wire test (GWT); (°C)						Verdict
		550	650		750		850	
			te	ti	te	ti		

Object/ Part No./ Material	Manufacturer / trademark	Glow-wire flammability index (GWFI), °C				GW ignition temp. (GWIT), °C		Verdict
		550	650	750	850	675	775	

The test specimen passed the glow wire test (GWT) with no ignition [(te – ti) ≤ 2s] (Yes/No) :	
If no, then surrounding parts passed the needle-flame test of annex E (Yes/No) :	
The test specimen passed the test by virtue of most of the flaming material being withdrawn with the glow-wire (Yes/No)? :	
Ignition of the specified layer placed underneath the test specimen (Yes/No) :	

Supplementary information:
550 °C GWT not relevant (or applicable) to parts of material classified at least HB40 or if relevant HBF
The GWIT pre-selection option, the 850 °C GWFI pre-selection option, and the 850 °C GWT are not relevant (or applicable) for attended appliances.
Indicate the voltage for obtaining the current upon which the GWT severity is based:
If marked with a rated voltage: Rated voltage ☐
If marked with a rated voltage range:
Lower limit of voltage range; ☐
Upper limit of voltage range ☐

*****END OF TEST REPORT*****