



**PRODUCT MANUAL FOR
SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES
PART 2 PARTICULAR REQUIREMENTS
SECTION 14 ELECTRIC KITCHEN MACHINES
ACCORDING TO IS 302-2-14: 2009**

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2019 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1.	Product	:	IS 302-2-14: 2009
	Title	:	Safety Of Household And Similar Electrical Appliances - Electric Kitchen Machines
	No. of Amendments	:	nil
2.	Sampling Guidelines:		
a)	Raw material	:	-
b)	Grouping guidelines	:	Please refer ANNEX – A
c)	Sample Size	:	Two pieces
3.	List of Test Equipment	:	Please refer ANNEX – B.
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – C.
5.	Possible tests in a day	:	Please refer ANNEX - D
6.	Scope of the Licence :		
	Name of the Product	Household Electric Kitchen Machines- Safety requirements	
	Type/ Functionality of the product	(For example, Food processor/ Hand-held blender/ Centrifugal Juicer/ egg beater etc)	
	Rated Input power		
	Rated Voltage		
	Class of appliance		
	Insulation class		
	Degree of protection		
Any other aspect specific to the type of the product			

ANNEX A

Grouping Guidelines

1(a). Samples of Electric Kitchen Machines shall be tested considering the following:

- i. Type/ Functionality of the product (For example, Food processor/ Hand-held blender/ Centrifugal Juicer/ egg beater etc)
- ii. Rated voltage
- iii. Rated input power
- iv. Class of appliance
- v. Insulation class
- vi. Degree of protection against harmful ingress of water

1(b). All other parameters stated above remaining the same, the following relaxation may be given when a variety is tested for all the requirements:

- i. To cover a range of rated inputs, samples of minimum and maximum rated power rating may be tested.
 - ii. If a variety with a particular degree of protection is tested, varieties with lower degrees of protection may also be covered.
2. The Firm shall declare the varieties they intend to cover in the Licence. The Scope of Licence may be restricted based on the manufacturing and testing capabilities of the manufacturer.
3. During the operation of the Licence, BO shall ensure that all the varieties covered in the Licence are tested in rotation to the extent possible.

ANNEX B**List Of Test Equipment***Major test equipment required to test as per the Indian Standard*

Sr. No.	Test Equipment	Tests used in with Clause Reference
1	Petroleum spirit	Marking and instructions, Cl 7
2	Test probe B, 13 and 41 of IS 1401, Voltmeter, mill-ammeter, oscilloscope, force gauges, 2000 ohm non-inductive resistor, coulombmeter, energymeter	Protection Against Electric Shock, Cl. 8
3	Voltmeter, Ammeter, Wattmeter, Timer	Power input and current, Cl 10
4	Temp recorder, Fine wire thermocouples, Winding resistance measurement system, Test Corner, probe for measurement of surface temperature	Heating, Cl 11
5	Metal foil, Leakage Current Tester, Isolation transformer, HV test supply, Network as per relevant fig. of IS 302-1	Leakage current and electric strength at operating temperature, Cl 13
6	Impulse voltage test generator and monitor	Transient voltages, Cl 14
7	IP test equipment, Measuring beaker, Spray Nozzle (only when the second numeral is greater than 0), Humidity Chamber with Temperature and Humidity controller, HV test facilities	Moisture resistance, Cl. 15
8	Metal foil, Low impedance ammeter, HV test supply	Leakage current and Electric Strength, Cl. 16
9	Temp recorder, Fine wire thermocouples, Winding resistance measurement system, Test Corner, probe for measurement of surface temperature	Overload protection of transformers and associated circuits, Cl. 17
10	Facility to lock the rotor, Electrostatic discharge test apparatus, Radiated field test apparatus, Fast transient burst test apparatus, Voltage dip and interruption test apparatus	Abnormal Operation, Cl. 19
11	Inclined plane, masses, force gauges, test probe similar to test probe B of IS 1401 with circular stop face 50 mm Ø, Stop plate, test rod	Stability & Mechanical Hazards, Cl. 20.

12	Spring hammer, Hardened steel pin, Force gauges	Mechanical Strength, Cl. 21
13	Test rig for torque on pin supported appliance, Heating cabinet, Test probe 11 of IS 1401, Test fingernail , Force gauge, Pressure test apparatus Automatic cord reel test apparatus Oxygen bomb with pressure apparatus Methylated spirits	Construction, Cl 22
14	Flexing test apparatus	Internal wiring, Cl 23
15	Flexing test apparatus, Cord anchorage force & torque tester, Cold chamber	Supply connection and external flexible cords, Cl 25
16	Torque screwdriver	Terminals for external conductors, Cl 26
17	Earth continuity tester	Provision for earthing, Cl 27
18	Torque gauge	Screws and connections, Cl 28
19	Mechanical measurement tools, Rod or ball gauges, Proof tracking test apparatus	Creepage Distance clearance and Distance through Insulation, Cl. 29
20	Heating Oven with Temp controller, Ball pressure Apparatus, Glow wire test apparatus	Resistance to heat and fire, Cl 30
21	Humidity Chamber with Temp and Humidity Controller Measuring Cylinder 500 ml Ammonium Chloride, Carbon Tetrachloride, Distilled Water	Resistance to Rusting, Cl. 31
22	Air conditioner	To maintain ambient temperature

The above list is indicative only and may not be treated as exhaustive.

ANNEX C

Scheme Of Inspection And Testing

1. LABORATORY - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare a calibration plan for the test equipment.

2. TEST RECORDS – The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. LABELLING AND MARKING – As per the requirements of IS 302-2-14: 2009.

4. CONTROL UNIT – All electric kitchen machines of the same type/ functionality, rating (Voltage, power), class of appliance and insulation class manufactured in one day shall constitute a control unit.

5. LEVELS OF CONTROL - The tests as indicated in column 1 of [Table 1](#) and the levels of control in column 3 of [Table 1](#), shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

6. REJECTIONS – Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

TABLE 1

(1)				(2)	(3)	
Test Details				Test equipment requirement R: required (or) S: Sub- contracting permitted	Levels of Control	
Cl.	Requirement	Test Methods			No. of Sample	Frequency
		Cl.	Ref			
5.1	Earth continuity test	A-1	IS 302-1	R	Each Machine	
5.1	Electric strength test	A-2		R	Each Machine	
5.1	Functional test	A-3		R	Each Machine	
8	Protection Against Electric Shock	8	IS 302-2-14	R	One	Each control unit
27	Provision for earthing	27		R	One	Each control unit
10	Power Input and Current	10		R	One	Each control unit
11	Heating	11		R	Two	Every month for each type, rating and insulation class
13	Leakage current and Electric strength at operating temperature	13		R	One	Each control unit
15	Moisture Resistance	15		S	One	Every month for each type, rating & IP
16	Leakage current and Electric strength	16		R	Two	Every week for each type and rating
14	Transient Overvoltages	14		S	One	Every year for each type and rating
17	Overload protection of transformers and associated circuits	17		S	One	Every year for each type and rating
19	Abnormal operation	19		S	Two	Every six months for each type, rating, insulation class and class of appliance.
20	Stability and Mechanical hazards	20		S		
21	Mechanical strength	21		S		
22	Construction	22		S		
23	Internal wiring	23		S		
24	Components	24		S		
25	Supply connection and external flexible cables and cords	25		S		
26	Terminals for external conductors	26	S			
28	Screws and connections	28	S			
29	Creepage distances, clearances and distances through insulation	29	S			
30	Resistance to heat, fire and tracking	30	S	Once a year for each rating		
31	Resistance to rusting	31	S	Once a year		

32	Radiation, toxicity and similar hazards	32		S		
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Note-1: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note-2: Levels of control given in column 3 are recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.

ANNEX D

Possible Tests in a day

- a. Earth continuity test (A-1 of IS 302-1)
- b. Electric Strength test (A-2 of IS 302-1)
- c. Functional test (A-3 of IS 302-1)
- d. Protection Against Electric Shock (Cl. 8)
- e. Input (Cl. 10)
- f. Electric Insulation and Leakage Current at Operating Temperature (Cl. 13)
- g. Provisions of Earthing (Cl. 27)
- h. High Voltage (Cl. 13)