उत्पाद मैन्युअल
आई एस 302-2-15 : 2009 के अनुसार
घरेलु और समान विद्युत साधित्रों की सुरक्षा भाग 2 विशेष अपेक्षाएँ अनुभाग 15 तापन द्रवों के साधित्र (पहला पुनरीक्षण) के लिए
दस्तावेज़ संख्या – पीएम/आईएस 302-2-15/1/ फरवरी 2024

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम, 2018 की योजना- I के तहत प्रमाणन के संचालन में एकरूपता और पारदर्शिता के लिए इस उत्पाद मैनुअल का उपयोग सभी क्षेत्रीय / शाखा कार्यालयों और लाइसेंसधारियों द्वारा संदर्भ सामग्री के रूप में किया जाएगा। दस्तावेज़ का उपयोग बीआईएस प्रमाणन प्राप्त करने के इच्छुक संभावित आवेदकों द्वारा भी किया जा सकता है।

PRODUCT MANUAL FOR
SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES: PART 2 PARTICULAR REQUIREMENTS: SEC 15 APPLIANCES FOR HEATING LIQUIDS (FIRST REVISION)
ACCORDING TO IS 302-2-15 : 2009
Document No - PM/IS 302-2-15/1/February 2024

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure uniformity of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment)Regulations,2018 for variousproducts. The document may also be used by prospective applicants desirous of obtaining BIS certification.

भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
मानक भवन, ९, बहादुर शाह ज़फ़र मार्ग
Manak Bhawan, 9, Bahadur Shah Zafar Marg
नई दिल्ली- ११०००२
New Delhi – 110002

उत्पाद मैन्युअल
घरेलु और समान विद्युत साधित्रों की सुरक्षा भाग 2 विशेष अपेक्षाएँ
अनुभाग 15 तापन द्रवों के साधित्र (पहला पुनरीक्षण)
आई एस 302-2-15 : 2009 के अनुसार

PRODUCT MANUAL
SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES: PART 2 PARTICULAR REQUIREMENTS: SEC 15 APPLIANCES FOR HEATING LIQUIDS (FIRST REVISION) ACCORDINGTO IS 302-2-15 : 2009

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम, 2018 की योजना- I के तहत प्रमाणन के संचालन में एकरूपता और पारदर्शिता के लिए इस उत्पाद मैनुअल का उपयोग सभी क्षेत्रीय / शाखा कार्यालयों और लाइसेंसधारियों द्वारा संदर्भ सामग्री के रूप में किया जाएगा। दस्तावेज़ का उपयोग बीआईएस प्रमाणन प्राप्त करने के इच्छुक संभावित आवेदकों द्वारा भी किया जा सकता है।

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure uniformity of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment)Regulations,2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification.

1.	मानक संख्या **IS No.**	:	**IS 302-2-15 : 2009**
	शीर्षक **Title**	:	**Safety of household and similar electrical appliances: Part 2 particular requirements: Sec 15 Appliances for heating liquids (First Revision)**
	संशोधनों की संख्या **No. of amendments**	:	NIL
2.	नमूना दिशानिर्देश **Sampling Guidelines:**		
a)	कच्चा माल **Raw material**	:	Raw Material and Components used in the product shall be tested as per relevant Indian Standard, wherever applicable.

			In case, the raw material / component is notified under mandatory BIS certification, the raw material/ component shall bear the BIS Standard Mark under a valid licence. E.g. Plugs: as per IS 1293, Cables: as per IS 694/ IS 9968 (Part 1), Switches as per IS 3854, etc
b)	**समूहीकरण दिशानिर्देश** **Grouping Guidelines**	:	Please refer ANNEX – A
c)	**नमूने का परिमाण** **Sample Quantity**	:	3 numbers
3.	**परीक्षण उपकरणों की सूची** **List of Test Equipment**	:	Please refer ANNEX – B
4.	**निरीक्षण और परीक्षण की स्कीम** **Scheme of Inspection and Testing**	:	Please refer ANNEX – C
5.	**एक दिन में संभावित परीक्षण** **Possible tests in a day:**	:	Please refer ANNEX-D
6.	**लाइसेंस का दायरा /Scope of the Licence**	:	Licence is granted to use Standard Mark as per IS 302-2-15 : 2009 with the following scope:
	Name of Product:		Safety of household and similar electrical appliances for heating liquids
	Name/type of appliance		a) coffee-makers; b) cooking pans; c) egg boilers; d) feeding-bottle heaters; e) kettles (with cord or cordless) and other appliances for boiling water, having a rated capacity not exceeding 10 l; f) milk heaters; g) pressure cookers having a rated cooking pressure not exceeding 140 kPa and a rated capacity not exceeding 10 l; h) slow cookers; i) steam cookers; j) wash boilers; k) yoghurt makers; and

			l) Any other [1]
	Model Name/No.		
	Ratings		__W, __V, __HZ, __ Phase
	Capacity / Size (as applicable)		

NOTE:

1. Rice Cookers as per IS 302-2-15 : 2009 has been notified for mandatory certification under Scheme –II of BIS(Conformity Assessment) Regulations, 2018. Hence, applications for grant of licence for Rice Cookers are to be made under Scheme –II only.

ANNEX – A

समूहीकरण दिशानिर्देश
Grouping Guidelines

1. Manufacturer shall declare the model(s) of each type(s) of appliances for heating liquids manufactured by them and declare the following parameters of each model:
    a. Name/type of appliance
    b. Model Name/No
    c. Ratings (as per scope of licence)
    d. Capacity / Size (as applicable)
2. For grant of licence(GoL)/ Change in Scope of Licnece (CSoL), testing to be carried out for each model(s) of each type of appliance(s) separately.
3. Further, following relaxation in testing is given:
    a. In case of model(s) of higher input rating is tested, then similar model(s) with lower input rating may be covered without further testing subject to the condition that other parameter of scope of licence remain same.
    b. In case of model(s) of higher capacity/size is tested, then similar model(s) with lower capacity/size may be covered without further testing subject to the condition that other parameter of scope of licence remain same.
    c. In case of change in colour/ aesthetic changes, separate testing is not required, subject to the condition that a similar model with same rating and material has already been tested or is covered in the scope of licence as per the grouping guidelines.
4. Separate samples to be tested for GoL/CSoL of cordless kettles.
5. Along with the declarations at Sl. 1 above, manufacturer shall also declare the following for each of the model(s):
    a. Class of Appliance;
    b. Degree of protection;
    c. Material Group;
    d. Pollution Degree; and
    e. Instruction/ operation manual along with photographs of the product.
6. The Scope of Licence may be restricted based on the manufacturing and testing capabilities of the manufacturer.
7. During the operation of the Licence, BO shall ensure that all the models covered in the Licence are tested in rotation to the extent possible.

ANNEX – B

परीक्षण उपकरणों की सूची

List Of Test Equipment

(INDICATIVE LIST, FOR GUIDANCE ONLY)

Major test equipment required to test as per the Indian Standard

Sl. No.	Tests Used In With Clause Reference	Test Equipment/Chemical
1.	Marking and instructions, Cl 7 of IS 302-2-15	Petroleum spirit
2.	Protection Against Electric Shock, Cl. 8 of IS 302-2-15	Test probe B, 13 and 41 of IS 1401, Voltmeter, mill-ammeter, oscilloscope, force gauges, 2000 ohm non-inductive resistor, coulomb meter, energy meter
3.	Power input and current, Cl 10 of IS 302-2-15	Voltmeter, Ammeter, Wattmeter, Timer
4.	Heating, Cl 11 of IS 302-2-15	Temp recorder, Fine wire thermocouples, Winding resistance measurement system, Test Corner, probe for measurement of surface temperature
5.	Leakage current and electric strength at operating temperature, Cl 13 of IS 302-2-15	Metal foil, Leakage Current Tester, Isolation transformer, HV test supply, Network as per relevant fig. of IS 302-1
6.	Transient voltages, Cl 14 of IS 302-2-15	Impulse voltage test generator and monitor
7.	Moisture resistance, Cl. 15 of IS 302-2-15	IP test equipment, Measuring beaker, Spray Nozzle (only when the second numeral is greater than 0), Spillage test apparatus, Humidity Chamber with Temperature and Humidity controller, HV test facilities
8.	Leakage current and Electric Strength, Cl. 16 of IS 302-2-15	Metal foil, Low impedance ammeter, HV test supply
9.	Overload protection of transformers and associated circuits, Cl. 17 of IS 302-2-15	Temp recorder, Fine wire thermocouples, Winding resistance measurement system, Test Corner, probe for measurement of surface temperature
10.	Abnormal Operation, Cl. 19 of IS 302-2-15	Plywood board, Electrostatic discharge test apparatus, Radiated field test apparatus, Fast transient burst test apparatus, Voltage dip and interruption test apparatus
11.	Stability & Mechanical Hazards, Cl. 20. of IS 302-2-15	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
12.	Mechanical Strength, Cl. 21 of IS 302-2-15	Spring hammer, Hardened steel pin, Force gauges

13.	Construction, Cl 22 of IS 302-2-15	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
14.	Internal wiring, Cl 23 of IS 302-2-15	Flexing test apparatus
15.	Supply connection and external flexible cords, Cl 25 of IS 302-2-15	Flexing test apparatus, Cord anchorage force & torque tester, Cold chamber
16.	Terminals for external conductors, Cl 26 of IS 302-2-15	Torque screwdriver
17.	Provision for earthing, Cl 27 of IS 302-2-15	Earth continuity tester
18.	Screws and connections, Cl 28 of IS 302-2-15	Torque gauge
19.	Creepage Distance clearance and Distance through Insulation, Cl. 29 of IS 302-2-15	Mechanical measurement tools, Rod or ball gauges, Proof tracking test apparatus
20.	Resistance to heat and fire, Cl 30 of IS 302-2-15	Heating Oven with Temp controller, Ball pressure Apparatus, Glow wire test apparatus
21.	Resistance to Rusting, Cl. 31 of IS 302-2-15	Humidity Chamber with Temp and Humidity Controller, Measuring Cylinder 500 ml, Ammonium Chloride, Carbon Tetrachloride, Distilled Water
22.	General Test Conditions and preparation of sample	Air conditioner, Heater

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

ANNEX – C

निरीक्षण और परीक्षण की स्कीम

Scheme Of Inspection And Testing

1. QUALITY ASSURANCE PLAN

1.1 It is expected that manufacturers (licensees/applicants) will implement a Quality Assurance Plan i.e. a plan of regular testing and in-process controls, designed to ensure that the product bearing theStandard Mark conforms to all requirements of the Indian Standard.

1.2 The manufacturers shall define a Quality Assurance Plan defining the control unit (i.e. lot/batch etc.) and the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and submit the same to BIS Branch Office for information. The manufacturer shall comply with the same and maintain test records in accordance with para 2.4.

1.3 **RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:**

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: **Same model of same type of appliances for heating liquids manufactured in a day** shall constitute a control unit. The manufacturer has the choice to define their own control unit/batch/lot and submit the same to the BIS.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in **Table 1**.

1.3.3 The manufacturer shall ensure inspection and testing as per the Quality Assurance Plan submitted by them on the whole production of the factory which is covered by this plan. Alternatively,the manufacturer has the option of adherence to the quality plan as per levels of control recommended in column 3 of Table 1.

1.4 However, all manufacturers shall ensure compliance of their products to all the requirementsof the Indian Standard.

2. ENSURING COMPLIANCE THROUGH TESTING- It is expected that manufacturers (licensees/ applicants) will establish a suitably equipped and staffed in house laboratory (In house testing facility) for testing at least those parameters of the Indian Standard which require routine testing for ensuring quality of the product. This includes in-process controls as may be defined and put in place by the manufacturer and testing parameters/requirements which can only be performed in the factory.

2.1 For the guidance of manufacturers, Table 1 giving the recommended levels of control is given below. Column 2 of Table 1 indicates routine tests where test equipment is required in house as “R” or other tests which can be subcontracted as “S”. Subcontracting is permitted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.2 For MSME manufacturers, the requirement of maintaining a laboratory/in-house testing facility for routine tests (indicated as “R” in Column 2 of Table 1) is also optional.

2.2.1 MSME manufacturers may utilize common cluster based facilities as per guidelines for the utilization of cluster based test facilities by MSMEs or the provisions of Sharing of testing facilities or get testing done from BIS recognized/empaneled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.3 **Large Scale manufacturers shall maintain an in-house laboratory equipped at least with test facilities for routine tests (indicated as "R" in Column 2 of Table 1),** where different tests given in the specification shall be carried out in accordance with the method given in the specification. They shall also implement a calibration plan for the in-house test equipment.

2.3.1 Alternatively, in lieu of an in-house laboratory, large scale manufacturers can also utilize the provisions of Sharing of testing facilities as per the Guidelines for Grant of Licence available on BIS website www.bis.gov.in. (Under Conformity Assessment>Product Certification Process). Even for subcontracted tests, provisions for sharing of testing facilities can be utilized.

2.4 **TEST RECORDS**- The manufacturers maintaining an in-house laboratory or utilizing common cluster based facilities or shared test facilities shall maintain test records for the tests carried out to establish conformity. For the tests being subcontracted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025, test reports issued by the laboratories shall be available for inspection by BIS.

3. PACKING AND MARKING - The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly **on each appliances for heating liquids and also on its packaging** provided always that the material so marked conforms to each requirement of the specification.

3.1 Packing and Marking shall be done as per the **IS 302-2-15 : 2009**.

3.2 **Additional Marking requirements**: The material shall also be marked with the following additional requirement on packaging:

a) "For BIS certification details please visit www.bis.gov.in";

4. REJECTION - All the production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark. 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
(ONLY FOR GUIDANCE PURPOSE)

(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**			
7	Marking	7	IS 302-1	R	Refer Note-1	
7	Marking (indelibility)	7.14	IS 302-1	R	One	Each control unit
5.1	Earth continuity test	A-1	IS 302-1	R	Each appliance	
5.1	Electric strength test	A-2	IS 302-1	R	Each appliance	
5.1	Functional test	A-3	IS 302-1	R	Each appliance	
8	Protection against access to live parts	8	IS 302-2-15	R	One	Each control unit
27	Provisions for earthing	27	IS 302-2-15	R	One	Each control unit
10	Power Input and Current	10	IS 302-2-15	R	One	Each control unit
13	Leakage current and Electric strength at operating temperature	13	IS 302-2-15	R	One	Once in a week for each model manufactured during the period
11	Heating	11	IS 302-2-15	R	One	Once in a month for each model manufactured during the period
15	Moisture Resistance	15	IS 302-2-15	R	One	
16	Leakage current and Electric strength	16	IS 302-2-15	R	One	

14	Transient Overvoltages	14	IS 302-2-15	S	One	Every six months for each model manufactured during the period
17	Overload protection of transformers and associated circuits	17	IS 302-2-15	S	One	
19	Abnormal operation	19	IS 302-2-15	S	One	
20	Stability and Mechanical hazards	20	IS 302-2-15	S	One	
21	Mechanical strength	21	IS 302-2-15	S	One	
22	Construction	22	IS 302-2-15	S	One	
23	Internal wiring	23	IS 302-2-15	S	One	
24	Components	24	IS 302-2-15	S	One	
25	Supply connection and external flexible cables and cords	25	IS 302-2-15	S	One	
26	Terminals for external conductors	26	IS 302-2-15	S	One	
28	Screws and connections	28	IS 302-2-15	S	One	
29	Creepage distances, clearances and distances through insulation	29	IS 302-2-15	S	One	
30	Resistance to heat, fire and tracking	30	IS 302-2-15	S	One	
31	Resistance to rusting	31	IS 302-2-15	S	One	
32	Radiation, toxicity and similar hazards	32	IS 302-2-15	S	One	

Note-1: Firm should exercise adequate control so that whole production should meet the requirements.

ANNEX – D

एक दिन में संभावित परीक्षण
Possible Tests in a day

1. Earth Continuity test (A-1 of IS 302-1)
2. Electric strength test (A-2 of IS 302-1)
3. Functional test (A-3 of IS 302-1)
4. Marking (Cl. 7)
5. Protection against access to live parts (Cl. 8)
6. Power input and current (Cl. 10)
7. Leakage current and electric strength (Cl. 16)
8. Mechanical strength (Cl. 21)
9. Provision for earthing (Cl. 27)
10. Screws and connections (Cl. 28)
11. Creepage distances, clearances and distances (Cl. 29)
12. Stability and Mechanical Hazards (Cl. 20)
13. Temperature rise (Cl. 17)