उत्पाद मैन्युअल
घरेलू एवं समान विद्युतीय साधित्र - सुरक्षा भाग 1 सामान्य अपेक्षाएँ (सातवाँ पुनरीक्षण)
आई एस 302 (भाग 1) : 2024/ आई ई सी 60335-1 : 2020 के अनुसार

PRODUCT MANUAL
HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES - SAFETY PART 1 GENERAL REQUIREMENTS (SEVENTH REVISION)
ACCORDINGTO IS 302 (Part 1) : 2024/ IEC 60335-1 : 2020

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 (Part 1) : 2024/ IEC 60335-1 : 2020
	शीर्षक **Title**	:	Household and Similar Electrical Appliances – Safety Part 1 General Requirements (Seventh Revision)
	संशोधनों की संख्या **No. of amendments**	:	NIL
2.	**नमूना दिशानिर्देश** **Sampling Guidelines:**		
a)	**कच्चा माल** **Raw material**	:	• Components as per Cl. 24 of IS 302 (Part 1)
b)	**समूहीकरण दिशानिर्देश**	:	Please refer ANNEX – A

	Grouping Guidelines		
c)	**नमूने का परिमाण** **Sample Quantity**	:	2 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**	:	As per below table
	Licence is granted to use Standard Mark as per IS 302 (Part 1) : 2024/ IEC 60335-1 : 2020 with the following scope:		
	Name of the Product	Household and similar electrical appliances – Safety Part 1 General Requirements	
	Product Type	**<name of the Electrical Appliance>**	
	Model No.		
	Class of Appliance	Class I/II/III	
	Rating	____ W, ____ V, ____ Hz, _____Phase	
	Type of Supply	a.c. / d.c.	
	Grade	Pollution degree:__, Material group:__	
	Insulation Class		
	Other requirements	Product specific requirements, wherever applicable, i.e. capacity in litres, kg, etc	

ANNEX – A

समूहीकरण दिशानिर्देश
Grouping Guidelines

1) Manufacturers shall declare each model(s) (including model numbers) of the Household and Similar Electrical Appliances along with parameters indicated in the scope of licence.

2) Each type of Electrical Appliances and each model is required to be tested for verifying compliance to the Indian Standard by the manufacturer.

3) However, wherever, a manufacturer feels that the models can be clubbed together in a series/ group, and the representative model(s) can be tested to ensure compliance of the complete series/ group, the manufacturer may submit the series/ group to the Head of the Branch Office (BO) along with technical justification.

4) Following shall be ensured to make series/ group of models:

Sl. No.	Criteria	Example
a.	**Product Type**: Electrical Appliances of different product types shall not be grouped together.	For example, Models of kettles, garment steamers, and trimmers shall not be placed in the same series/group.
b.	**Nature of supply**: Electrical Appliances of different nature of supply shall not be grouped together.	For example, Model(s) operating on Single Phase a.c. supply shall not be placed in the same series/ group with model(s) operating on Three Phase a.c. supply/ model(s) operating on d.c. supply/ battery-operated model(s). Similarly, Model(s) operating on d.c. supply shall not be placed in the same series/ group with Model(s) operating on Single Phase a.c. supply/ Model(s) operating on Three Phase a.c. supply/ appliances/ battery-operated Model(s) and so on.
c.	**Additional features of the product**	In case the model(s) tested do not have all the features of the product, additional model(s) having all the features shall be tested.

d.	**Aesthetics**	Change in aesthetics, i.e colour, visual design etc. may not be treated as different model.
e.	**Insulation class**	If higher insulation class is tested on a model, then model(s) with lower insulation class in the series/ group may be considered.
f.	**Degree of protection**	If higher degree of protection is tested on a model, then model(s) with lower degree of protection in the series/ group may be considered.

5) Head of the BO shall examine the case and take decision on acceptance of the series/ group. In case the BO faces any issues/ challenge in approval/ finalization of the grouping, the case may be forwarded along with BO's recommendation to CMD-III through DDGR for examination.

6) For considering Grant of Licence/ Change in Scope of the Licence, in the series/ group formed as per above criteria, Models of the highest and the lowest input rating shall be tested.

7) During the operation of the Licence, BO shall ensure that all the models covered in the scope of the Licence shall be 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.	Test used in with clause reference	Test equipment list
1.	Cl. 7 (Marking and instruction)	Petroleum spirit (n-Hexane), Cloth, Stopwatch
2.	Cl. 8 (Protection against access to live parts)	Test probe B, Test Probe 13, Test probe 41, Test Probe 18, Push- Pull Gauge, Voltmeter
3.	Cl. 13.3 (High Voltage test)	High Voltage Tester, Voltmeter, illiammeter
4.	Cl. 10 (Power input and current), Cl. 13 (Leakage current & Electric strength at operating temperature), Cl. 16 (Leakage current & Electric strength), Cl. 27 (Provision for earthing)	Voltmeter, Ammeter, Wattmeter, Micro ammeter, Mega Ohm Meter, Frequency Meter, Test Finger, Milliammeter , Leakage Current Tester
5.	Cl. 11 (Heating)	Digital temp data logger, Steel scale, Voltmeter, Wooden test corner, Fine wire thermocouple (wires with a diameter not exceeding 0.3 mm), Stopwatch
6.	Cl. 14 (Transient Overvoltage),	Endurance Test Apparatus (Voltmeter, Ammeter, Wattmeter, Energy Meter, Counter Meter, Timer)
7.	Cl. 15 (Moisture Resistance)	Humidity Chamber (Temperature Indicator, Temperature Controller, Thermo hygrometer, Hour Meter), Test set up for degree of protection against moisture
8.	Cl. 17 (Overload Protection of Transformers and associated circuits)	Variable Power Supply or Transformer Test Setup, Short-Circuit Simulation Setup, Multi-channel temperature data logger, Digital thermometer, Adjustable load bank, Insulation Monitoring Tools, Timer

9.	Cl. 19 (Abnormal operation)	Wattmeter, Variable voltage supply, Digital temp data logger, HV tester, Metal Foil, Fine wire thermocouple, Stopwatch, Surge test generator
10.	Cl. 20 (Stability and mechanical Hazards), Cl. 21 (Mechanical Strength)	Inclined plane, Angle Finder, Push-pull gauge, Test probe similar to test probe B(as per Cl. 20.2), Steel scale, Spring Impact Hammer, vernier caliper, scratch tester, test fingernail(as per Cl.21.2) , Door Endurance test apparatus, Impact tester, Compression resist tester
11.	CL 22 (Construction)	Test probe B, Test probe 13, Test probe 18, Test probe 41, Torque meter, Push-pull Gauge, Hot Air Oven, syringe, colored water, Stopwatch, Voltmeter, Multimeter, Vernier Caliper, Iron bars, electrodes, hydrogenated oil, gravy, salt-free butter, fuchsine, methylated spirit, Door Endurance test apparatus
12.	CL 23 (Internal Wiring)	Flexing Test Apparatus, HV tester, Metal Foil, Stopwatch
13.	Cl. 25 (Supply Connection and External Flexible Cables and Cords)	Cord Grip Test Apparatus, Measuring Tape, Micro-ohmmeter
14.	Cl. 26 (Terminals for external conductors)	Torque Screwdriver
15.	Cl. 27 (Provision for earthing)	Earth Contact Resistance Testing Panel (ECR Measurement), Voltmeter, Ammeter
16.	Cl. 28 (Screws and Connections)	Torque Wrench
17.	Cl. 29 (Creepage Distances and Clearances)	Filler Gauge, Vernier Calliper, Micrometer
18.	General	Air Conditiner, Temperature Indicator

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: **All Household and Similar Electrical Appliances of each product type and each model number 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**. **Manufacturers may submit their own product specific Quality Assurance plan to BIS.**

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.

1.3.4 However, all manufacturers shall ensure compliance of their products to all the requirements of 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 housetesting 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

perIS/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 withtest facilities for routine tests (indicated as "R" in Column 2 of Table 1)**, where different testsgiven 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 laboratoryor 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. MARKING - The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on **each Household and Similar Electrical Appliances and also on its packaging** (wherever applicable) provided always that the **Household and Similar Electrical Appliances** so marked conforms to each requirement of the specification. In addition, marking shall be done as per the Cl. 7 of **IS 302 (Part 1) : 2024/ IEC 60335-1 : 2020**.

4. Additional Marking requirements:

a) The material shall also be marked with the following additional requirement on packaging: "For BIS certification details please visit www.bis.gov.in";
b) Instruction shall be provided with each **Household and Similar Electrical Appliances** as per requirement prescribed at Cl. 7.12 of the **IS 302 (Part 1) : 2024/ IEC 60335-1 : 2020;**
c) Product specific marking as prescribed in relevant section of IS 302 (Part 2) series, wherever available, shall also be marked on the product and/ or packaging (wherever applicable).

5. 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**	**Remarks**
		Clause	**Reference**				
24	Components	24	IS 302 (Part 1)/ IEC 60335-1	S	Each consignment of components received	Further testing is not required if supplied with BIS Standard Mark or with Test certificate, which ever applicable	
A.2	Earth Continuity Test	A.2		R	Each Household and Similar Electrical Appliances		
A.3	Electric Strength Test	A.3		R			
A.4	Functional Test	A.4		R			
7	Marking and Instruction	7		R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained		
27	Provision for Earthing	27		R	One	Each Control Unit	
8	Protection against access to live parts	8		S	One	Each model of Household and Similar Electrical Appliances manufactured in the period of six months	
12	Charging of metal-ion batteries	12		S	One		
10	Power Input & Current	10		S	One		
13	Leakage current & electric strength at operating temperature	13		S	One		

11	Heating	11	IS 302 (Part 1)/ IEC 60335-1	S	One	Each model of Household and Similar Electrical Appliances manufactured in the period of six months
14	Transient Overvoltage	14		S	One	
15	Moisture Resistance	15		S	One	
16	Leakage Current & Electric Strength	16		S	One	
17	Overload Protection of Transformers and associated circuits	17		S	One	
19	Abnormal Operation	19		S	One	
20	Stability & Mechanical Hazards	20		S	One	
21	Mechanical Strength	21		S	One	
22	Construction	22		S	One	
23	Internal Wiring	23		S	One	
25	Supply Connections & external flexiblecords	25		S	One	
26	Terminals for external conductors	26		S	One	
28	Screws & Connections	28		S	One	
29	Clearances, creepage distances & solid insulation	29		S	One	
30	Resistance to heat & fire	30		S	One	
31	Resistance to rusting	31		S	One	
32	Radiation, toxicity and similar hazards	32		S	One	

ANNEX – D

एक दिन में संभावित परीक्षण
Possible Tests in a day

1. Marking (Cl. 7);
2. Earth continuity test (A-1);
3. Electric strength test (A-2);
4. Functional test (A-3);
5. Protection against access to live parts (Cl. 8);
6. Leakage Current & Electric Strength at operating temperature (Cl. 13);
7. Provision for Earthing (Cl. 27).