



**PRODUCT MANUAL FOR  
HOUSEHOLD ELECTRIC DIRECT ACTING ROOM HEATERS-  
PERFORMANCE REQUIREMENTS  
ACCORDING TO IS 369: 2019**

*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, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.*

1.	<b>Product</b>	:	IS 369:2019	
	<b>Title</b>	:	Household Electric Direct Acting Room Heaters – Performance Requirements	
	<b>No. of Amendments</b>	:	Nil	
2.	<b>Sampling Guidelines:</b>			
a)	<b>Raw material</b>	:	Main supply cord	IS 9968 (Part 1)/ IS 694
			Plug	IS 1293
b)	<b>Grouping guidelines</b>	:	Please refer ANNEX – A	
c)	<b>Sample Size</b>	:	2 nos. of Room heaters	
3.	<b>List of Test Equipment</b>	:	Please refer ANNEX – B	
4.	<b>Scheme of Inspection and Testing</b>	:	Please refer ANNEX – C	
5.	<b>Possible tests in a day:</b>	:	Please refer ANNEX-D	
6.	<b>Scope of the Licence:</b>			
	“Licence is granted to use Standard Mark as per IS 369:2019 with the following scope:			
	Name of the Product	Household Electric Direct Acting Room Heaters- Performance requirements		
	Type of Heater	(as per Cl 4.1 of IS 369)		
	Rating	Wattage, Voltage, Frequency		
	Class	Insulation class		
	Regulating Features	(as per Cl 4.2 of IS 369)		

**ANNEX A**

**Grouping Guidelines**

- 1) For considering GoL/CSoL of Household Electric Direct Acting Room Heaters - Performance requirements, the following parameters shall be considered for grouping:
  - a) Rated Voltage
  - b) Rated Input (Wattage)
  - c) Type of Heater (as per Cl 4.1 of IS 369)
  - d) Regulating features (as per Cl 4.2 of IS 369)
  - e) Insulation Class
  
- 2) All other parameters 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, two samples - one below 1000 W, and one above 1000 W and preferably the highest in each case shall be tested.
  - ii. To cover all types of heaters at 1(c) above, at least one sample of each type shall be tested. If the heater tested is a combination of two or more types, then each of those types and combinations may also be covered.
  - iii. To cover all varieties of heaters at 1(d) above, at least one sample of each regulating feature shall be tested. If the heater tested is a combination of two or more regulating features, then each of those features and combinations may also be covered.
  
- 3) The Firm shall declare the varieties of Room Heaters they intend to cover in the Licence. The Scope of Licence may be restricted based on the Manufacturing capability and Testing facilities of the Manufacturer.
  
- 4) 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*

<b>Sl. No.</b>	<b>Test Equipment</b>	<b>Tests used in with Clause Reference</b>
1	Voltmeter, Ammeter, Wattmeter	Cl. 10, Cl. 19 of IS 302-2-30 & Cl 14,16 of IS 369
2	Step-less variable voltage transformer	Cl. 8 of IS 369
3	Milli-ammeter for Leakage Current, High Voltage Tester	Cl. 13, Cl. 16 of IS 302-2-30
4	Thermocouple with digital/analog indicator, thermometer	Cl. 30 of IS 302-2-30 & Cl. 8,9,11 of IS 369
5	Cord grip test apparatus, Micrometer	Cl. 25 of IS 302-2-30
6	Vernier Caliper, Feeler gauges, Steel tapes, Weighing scale	Cl. 29 of IS 302-2-30 & Cl.7 of IS 369
7	Torque Screw Drivers	Cl. 25, Cl. 28 of IS 302-2-30
8	Wooden Test Corner, Apparatus, Laboratory ovens having thermostatic controls	Cl. 11,15 of IS 369
9	Ball pressure apparatus, Inclined plane, Impact test apparatus	Cl. 21, Cl. 30 of IS 302-2-30
10	Generator having a virtual impedance of 12 $\Omega$	Cl. 14 of IS 302-2-30
11	Humidity Chamber	Cl. 15 of IS 302-2-30

*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 369:2019.

4. **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.

4.1 All the production which conforms to the Indian Standard and covered by the licence should be marked with Standard Mark.

5. **CONTROL UNIT**– All Heaters of the same type and rating manufactured in a day shall constitute a control unit.

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) Test Details				(2)	(3)			
Cl.	Requirement	Test Methods		Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		Remarks	
		Clause	Reference		No. of Sample	Frequency		
18.4	Earth Continuity Test	A-1	IS 302-1	R	Every Room Heater		-	
	Electric Strength Test	A-2	IS 302-1	R				
	Functional test	A-3	IS 302-1	R				
<b>Safety Requirements (as per IS 302-2-30)</b>								
	Protection against access to live parts	8	IS 302-2-30	R	Two	Every control Unit	Pl. see Note 1	
	Power Input and Current	10	IS 302-2-30	R	10% subject to a minimum of three and maximum of thirteen			
	Leakage Current & Electric Strength at Operating Temperature	13	IS 302-2-30	R				
	Transient Overvoltage	14	IS 302-2-30	S	Two	Every year for each Type and rating		
	Heating	11	IS 302-2-30	R	Two	Every week for each type and rating		
	Moisture Resistance	15	IS 302-2-30	R				
	Leakage Current & Electric Strength	16	IS 302-2-30	R				
	Overload Protection of Transformers and Associated Circuits	17	IS 302-2-30	S	Two	Once a month for each type & rating		
	Abnormal Operation	19	IS 302-2-30	R	Two	Every six months for each type and rating		
	Stability & Mechanical Hazards	20	IS 302-2-30	R				
	Construction	22	IS 302-2-30	R	Two			
	Mechanical Strength	21	IS 302-2-30	R	Two	Two from each type and rating every 3 months or 5000 room heaters whichever is earlier		Pl. see Note 2

	Internal Wiring	23	IS 302-2-30	R		Every six months for each type and rating	
	Components	24	IS 302-2-30	R			
	Supply Connection & External Flexible Cords	25	IS 302-2-30	R			
	Terminals for External Conductors	26	IS 302-2-30	R			
	Provision for Earthing	27	IS 302-2-30	R	Every Room Heater		
	Screws and Connections	28	IS 302-2-30	R	Two	Every six months for each type and rating	
	Clearances, Creepage Distances & Solid Insulation	29	IS 302-2-30	R			
	Resistance to Heat and Fire	30	IS 302-2-30	S			
	Resistance to Rusting	31	IS 302-2-30	S			
	Radiation, Toxicity & Similar Hazards	32	IS 302-2-30	S			
<b>Performance Requirements</b>							
7	Dimensions, mass and means of connection to the supply (for all heaters)	7	IS 369	R	Two	Every six months for each type and rating	Pl. see Note 1
8	Temperature rise of air-outlet grilles and external surfaces (for all heaters)	8	IS 369	R	Two	Every week for each type and rating	
9	Temperature rise of surfaces surrounding the heater (for all heaters)	9	IS 369	R	Two	Every week for each type and rating	
10	Warming-up time of the heater (for all heaters)	10	IS 369	R	Two	Every week for each type and rating	

11	Stability of room temperature (for heaters with an ambient temperature thermostat)	11	IS 369	S	Two	Every six months for each type and rating
12	Set-back (for heaters with a set-back device)	12	IS 369	S	Two	Every six months for each type and rating
13	Frost protection temperature (for heaters with frost protection means)	13	IS 369	S	Two	Every six months for each type and rating
14	Inrush Current (for all heaters)	14	IS 369	R	Two	Every week for each type and rating
15	Effect of radiant heat (for all heaters except fan heaters and heaters for mounting at a height above 1.8m)	15	IS 369	R	Two	Every week for each type and rating
16	Measurement of the Usable Power (for all heaters)	16	IS 369	R	Two	Every week for each type and rating

Note 1: In case of failure in any type and rating, a thorough investigation of the cause of failure shall be made and defects rectified. Five samples of that type and rating from the improved lot shall be tested for these requirements till samples from five consecutive control units pass. The original frequency may then be restored.

Note-2: In case of failure, all room heaters in the control unit shall be tested and those found failing shall be rejected. All room heaters produced subsequently shall be tested for these requirements till 13 consecutive heaters pass. The original frequency may then be restored.

Note- 3: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note- 4: Levels of control given in column 3 are only 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**

1. Earth Continuity test
2. Electric strength test
3. Functional test
4. Protection against access to live parts
5. Power input and current
6. Leakage current and electric strength at operating temperature
7. Provision for earthing
8. Mass of the heater
9. Length of Supply Cord
10. Temperature rises of air-outlet grilles and external surfaces
11. Temperature rises of surfaces surrounding the heater
12. Warming-up time of the heater
13. Stability of Room temperature