



## PRODUCT MANUAL FOR ELECTRIC CEILING TYPE FANS ACCORDING TO IS 374:2019

*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 374:2019
	<b>Title</b>	:	Electric Ceiling Type Fans
	<b>No. of Amendments</b>	:	Nil
2.	<b>Sampling Guidelines:</b>		
a)	<b>Raw material</b>	:	<ul style="list-style-type: none"> <li>• Stampings as per IS 648</li> <li>• Electronic Type Fan Regulators (if provided) as per IS 11037</li> <li>• Remote Control Device (if provided) as per IS 14700 (Part 3/Sec 2)</li> </ul>
b)	<b>Grouping guidelines</b>	:	Please refer <a href="#">ANNEX – A</a>
c)	<b>Sample Size</b>	:	3 nos.
3.	<b>List of Test Equipment</b>	:	Please refer <a href="#">ANNEX – B</a>
4.	<b>Scheme of Inspection and Testing</b>	:	Please refer <a href="#">ANNEX – C</a>
5.	<b>Possible tests in a day</b>		Please refer <a href="#">ANNEX – D</a>
6.	<b>Scope of the Licence :</b>		
	Licence is granted to use Standard Mark as per IS 374:2019 with the following scope:		
	Electric ceiling type fans, driven by squirrel cage induction motor (capacitor type) / Brushless dc motor fans, with or without Speed Regulators / Remote Control Device, for fan size(s) .....mm, ....V, 50 Hz, Insulation Class .....		

**ANNEX A**

1. IS 374:2019 covers Electric ceiling fans driven by squirrel cage induction motor (capacitor type) as well as brushless dc motor fans with or without speed regulators/remote control device.
2. For considering GoL / CSoL, electric ceiling fan preferably of the highest fan size intended to be covered in the licence shall be drawn for testing from each Type of fan (ac single-phase ceiling fans driven by squirrel cage induction motor or brushless dc motor fans) in order to cover all the fan sizes of the particular Type tested.
3. If electric ceiling fan of any rated voltage is tested, fans of other lower rated voltages may also be covered.
4. If electric ceiling fan of higher insulation class is tested, fans with lower insulation class may also be covered.
5. If fans with speed regulator / remote control device is tested, fans of the same type without speed regulator/remote control device may also be covered.
6. If the variety already covered in the License is without speed regulator/ remote control device, fans of the same type with speed regulator/ remote control device may be covered subject to conformance to Cl. 10.1 to Cl. 10.8 of IS 374:2019.
7. The Firm shall declare the varieties of various electric ceiling fans 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.
8. 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, Finger Test Apparatus	Cl. 8 of IS 302-2-80
2	Voltmeter, Ammeter, Wattmeter	Cl. 10 of IS 302-2-80
3	Test Corner consisting of dull-black painted plywood, Temperature Controller	Cl. 11 of IS 302-2-80
4	IR Meter, Micro ammeter, HV Tester, Stopwatch	Cl. 13 of IS 302-2-80
5	Humidity Test Chamber	Cl. 15 of IS 302-2-80
6	Metal foil, HV Test Supply	Cl. 16 of IS 302-2-80
7	Test Corner, Felt Strips, Copper/brass disks	Cl. 19 of IS 302-2-80
8	Inclined Test Apparatus	Cl. 20 of IS 302-2-80
9	Spring Hammer, Finger Test Apparatus	Cl. 21 of IS 302-2-80
10	Micrometer, VAW meter, Pressure Test Apparatus	Cl. 22 of IS 302-2-80
11	Flexing Test Apparatus	Cl. 23 of IS 302-2-80
12	Cord Grip Test Apparatus, Measuring Tape, Micro ohmmeter	Cl. 25 of IS 302-2-80
13	Torque Screwdriver	Cl. 26 of IS 302-2-80
14	Earth Contact Resistance Testing Panel (ECR Measurement), Voltmeter, Ammeter	Cl. 27 of IS 302-2-80
15	Torque Wrench	Cl. 28 of IS 302-2-80
16	Filler Gauge, Vernier Caliper, Micrometer	Cl. 29 of IS 302-2-80
17	Glow Wire Test Apparatus, Oven, Ball Pressure Apparatus, Heating Oven with temperature controller	Cl. 30 of IS 302-2-80
18	Humidity Chamber with temperature and humidity controller, measuring cylinder, Ammonium chloride, Carbon	Cl. 31 of IS 302-2-80
19	Tachometer, Power Factor Meter	Cl. 14.4, Cl. 14.5 of IS 374
20	Analogue Type Vane Anemometer/Digital Type Vane Anemometer	Cl. 14.3 of IS 374

*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 374 : 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.

**5. CONTROL UNIT –** All ceiling fans of one 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) <b>Test Details</b>				(2)	(3) <b>Levels of Control</b>			
Cl.	Requirement	Test Methods		Test equipment requirement R: required (or) S: Sub-contracting permitted	No. of Sample	Frequency	Remarks	
		Clause	Reference					
18.4	Earth Continuity Test	A-1	IS 302-1	R	Every Fan		—	
	Electric Strength Test	A-2	IS 302-1	R				
	Functional test	A-3	IS 302-1	R				
	Simple Running Test	18.4(d)	IS 374	R				
4	<b>General Requirements</b>							
4.2	Stampings	4.2	IS 374	S	Each consignment	*	—	
			IS 648					
4.3	Blades and Motor	4.3	IS 374	R	Each Fan		—	
4.6	Enclosure	4.6	IS 374	R	Each Motor			
9	<b>Safety Requirements</b>							
	Protection against access to live parts	8	IS 302-2-80	R	Three	Every control Unit	—	
	Power Input and Current	10	IS 302-2-80	R				
	Heating	11	IS 302-2-80	R				
	Leakage Current & Electric Strength at Operating Temperature	13	IS 302-2-80	R				
	Transient Overvoltage	14	IS 302-2-80	S	Three	Every year for each type and rating		
	Moisture Resistance	15	IS 302-2-80	R	Three	Every week for each type and rating		
	Leakage Current & Electric Strength	16	IS 302-2-80	R				
	Overload Protection of Transformers and Associated Circuits	17	IS 302-2-80	S	Three	Once a month for each type & rating		
	Abnormal Operation	19	IS 302-2-80	S	Three	Every six months for each type and rating		
	Stability & Mechanical Hazards	20	IS 302-2-80	S				

9	Mechanical Strength	21	IS 302-2-80	S	Three	Once a month for each type & design		
	Construction	22	IS 302-2-80	S		Every six months for each type and rating		
	Internal Wiring	23	IS 302-2-80	S				
	Components	24	IS 302-2-80	S				
	Supply Connection & External Flexible Cords	25	IS 302-2-80	S				
	Terminals for External Conductors	26	IS 302-2-80	S				
	Provision for Earthing	27	IS 302-2-80	R		Every fan		
	Screws and Connections	28	IS 302-2-80	R		Every six months for each type and rating		
	Clearances, Creepage Distances & Solid Insulation	29	IS 302-2-80	R				
	Resistance to Heat and Fire	30	IS 302-2-80	S				
	Resistance to Rusting	31	IS 302-2-80	S				
	Radiation, Toxicity & Similar Hazards	32	IS 302-2-80	S				
15	Performance Requirements	14.3, 15	IS 374	R	Three	Each control unit		
14.4& 14.5	Speed and Power Factor	14.4& 14.5	IS 374	R				
10.1 to 10.6,10.8	Speed Regulator	10.1 to 10.6,10.8	IS 374	R		Once a week for each type and design		
10.7	Speed Regulator	10.7	IS 374	S	Each consignment	*		
			IS 11037, IS 14700 (Part 3/Sec 2)					
11	Starting	11	IS 374	R	Three	Each control unit		
12	Interchangeability	12	IS 374	R				
13	Silent Operation	13	IS 374	R				

17	Test for Harmonic Distortion	17	IS 374	S	Three	Every six months for each type and rating	—
16	Endurance Test	16	IS 374	S	Three	Once a month for each type & design	

\* No further testing is required if accompanied with Test certificate or ISI Marked.

Note- 1: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empaneled by the Bureau

Note- 2: 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. Simple Running Test
5. Protection against access to live parts
6. Power Input and Current
7. Leakage Current and Electric Strength at operating temperature
8. Provision for Earthing
9. Starting
10. Interchangeability
11. Silent Operation
12. Performance Requirements
13. Speed and Power Factor