उत्पाद मैनुअल
विद्युत् छत्त के प्रकार के पंखों
आईएस 374: 2019 के अनुसर

PRODUCT MANUAL
ELECTRIC CEILING TYPE FANS
according to IS 374: 2019

यह उत्पाद नियमावली सभी क्षेत्रीय/शाखा कार्यालयों और लाइसेंसधारियों द्वारा विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम, 2018 की योजना-I के अंतर्गत प्रमाणन के संचालन में एकरूपता और पारदर्शिता सुनिश्चित करने के लिए संदर्भ सामग्री के रूप में उपयोग की जाएगी। बीआईएस प्रमाणन प्राप्त करने के इच्छुक भावी आवेदक भी इस दस्तावेज़ का उपयोग कर सकते हैं।

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 374: 2019
	शीर्षक / Title	:	Electric Ceiling Type Fans
	संशोधनों की संख्या **No. of amendments**	:	1
2.	**नमूनाकरण दिशानिर्देश / Sampling Guidelines**		
a)	**कच्चा माल** **Raw material**	:	• Stampings as per IS 648/ Electrical grade Cold Rolled Close Annealed (CRCA) steel - semi processed after decarburization • Electronic Type Fan Regulators (if provided) as per IS 11037 • Remote Control Device (if provided) as per IS 14700 (Part 3/Sec 2) *Note: This section indicates the requirements for raw material (if specified in the IS) for which compliance is to be established during Grant of Licence/Change in Scope of Licence/Factory Surveillance.*
b)	**समूहीकरण दिशानिर्देश** **Grouping Guidelines**	:	Please refer **ANNEX – A**
c)	**नमूने का परिमाण** **Sample Quantity**	:	3 nos.

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9, BAHADUR SHAH ZAFAR MARG, NEW DELHI-110002
www.bis.gov.in

d)	**परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर** **Parameters to be Declared in Test Request**		1. Declared RPM in addition to the parameters given in scope of the licence. *Note: Apart from the above, any other requirements/ parameters may also be declared as per the standard, as applicable.*
3.	**परीक्षण उपकरण की सूची** **List of Test Equipment**	:	Please refer **ANNEX – B**
4.	**निरीक्षण एवं परीक्षण योजना** **Scheme of Inspection and Testing**	:	Please refer **ANNEX – C**
5.	**एक दिन में संभावित परीक्षण** **Possible tests in a day**	:	• Earth Continuity Test (A-1) • Electric Strength Test (A-2) • Functional test (A-3) • Simple Running Test (Cl. 18.4 d) • Protection against access to live parts (Cl. 8) • Power Input and Current (Cl. 10) • Leakage Current and Electric Strength at operating temperature (Cl. 13 of IS 302-2-80) • Provision for Earthing (Cl. 27) • Starting (Cl. 11) • Interchangeability (Cl. 12) • Silent Operation (Cl. 13) • Performance Requirements (Cl. 14.3, 15) • Speed and Power Factor (14.4 and 14.5) *Note: This section is for the guidance of BIS Certification Officers/ Technical Auditors of BIS Authorized Outside Surveillance Agencies(OSAs) during factory inspection to provide ready reference regarding the tests which can be witnessed during the inspection in the factory by the officer/ auditor.*
6.	**लाइसेंस का दायरा / Scope of the Licence:**		
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 … Rating Input Wattage … Model No…."			

ANNEX -A
Grouping Guidelines

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. Manufacturer shall declare the type, fan size, input voltage, insulation class, additional features (if any) and rated input wattage rating for fans produced by them with a model number.

3. For grant of licence/ change in scope of licence, each model of fan to be tested. Change in aesthetics, i.e. colour, visual design etc. may not be treated as different model.

4. However, following relaxation is testing is given

    i. If fans with speed regulator / remote control device is tested for one model, fans of the other model without speed regulator/remote control device may also be covered subject to the condition that fan size, input voltage, insulation class, and rated input wattage of both models are same.
    ii. If the model already covered in the Licence is without speed regulator/ remote control device, fans of the other model with speed regulator/ remote control device may be covered subject to conformance to Cl. 10.1 to Cl. 10.8 of IS 374:2019 subject to the condition that fan size, input voltage, insulation class, and rated input wattage of both models are same.
    iii. If one model is tested for EMI/EMC requirements (if applicable) as per clause 19.11.4 of IS 302 (Part 2/ Sec 80), other models may be covered in the scope of the licence without EMI/EMC testing provided the tested model is having the maximum features among the models to be covered in the licence. A declaration may be submitted by the manufacturer to this effect.

5. 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.

6. 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.

7. Manufacturer shall declare the type/ designation etc. of accessories (regulator, remote control) compatible with the fan.

ANNEX- B

List of Test Equipments

(Indicative List, For Guidance Only)

Sl. No.	Test Equipment	Clause Reference
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. QUALITY ASSURANCE PLAN

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

1.2 The manufacturers shall define a Quality Assurance Plan (QAP) defining the control unit (i.e. lot/batch etc.), the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and declare the arrangement for testing i.e. whether in-house or sub-contracting/ sharing for each applicable test and submit the same to BIS Branch Office for information. The manufacturer shall comply with the QAP and maintain test records in accordance with para 2.1.

1.3 Recommended Levels of Control/ Control Unit:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: *All ceiling fans of one model no. manufactured in a day* shall constitute a control unit.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in Table 1. Manufacturer has the discretion of declaring their own levels of control or accept the levels of control given in this document.

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.

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

2. ENSURING COMPLIANCE THROUGH TESTING

The manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard for which they may have in-house test facilities. However, there is no obligation to maintain in-house laboratory. Licensee may use alternative arrangements for tests of the production as per the declared QAP. Various alternatives are available for operation of BIS certification as given below and the relevant guidelines for availing such relaxations by the manufacturers, as amended from time to time, are to be referred:

i) Shared testing resources like common facility,

ii) Cluster based testing facility,

iii) Sub-contracting to outside laboratories which may either be:

a) BIS recognised/ empanelled laboratories, or

b) Any accredited laboratory as per ISO/IEC 17025

2.1 Test Records- The manufacturers shall maintain test records for the tests carried out (either in-house or at a sub-contracted or at shared test facility) to establish conformity of the product to the Standard for operation of licence. For the tests being subcontracted or conducted at a shared test facility, test results issued by the laboratories or test facilities, shall be made 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 ceiling fan provided always that the product so marked conforms to each requirement of the specification.

3.1 Marking on each Ceiling fan shall be done as per Cl. 8 of IS 374: 2019.

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

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

4. REJECTION

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

(Recommended Levels of Control by BIS- for Guidance Only)

(1)				(2)		
Test Details				**Levels of Control**		
Cl.	**Requirement**	**Test Methods**		**No. of Sample**	**Frequency**	**Remarks**
		Clause	**Reference**			
18.4	Earth Continuity Test	A-1	IS 302-1	Every Fan		–
	Electric Strength Test	A-2	IS 302-1			
	Functional test	A-3	IS 302-1			
	Simple Running Test	18.4(d)	IS 374			
4	**General Requirements**					
4.2	Stampings	4.2	IS 374	Each consignment		*
			IS 648			
4.3	Blades and Motor	4.3	IS 374	Each Fan		
4.6	Enclosure	4.6	IS 374	Each Motor		
9	**Safety Requirements**					
	Protection against access to live parts	8	IS 302-2-80	Three	Every control Unit	
	Power Input and Current	10	IS 302-2-80			
	Heating	11	IS 302-2-80			
	Leakage Current & Electric Strength at Operating Temperature	13	IS 302-2-80			
	Transient Overvoltage	14	IS 302-2-80	Three	Every year for each model no.	
	Moisture Resistance	15	IS 302-2-80	Three	Every week for each model no.	
	Leakage Current & Electric Strength	16	IS 302-2-80			
	Overload Protection of Transformers and Associated Circuits	17	IS 302-2-80	Three	Once a month for each model no.	

	Abnormal Operation	19	IS 302-2-80	Three	Every six months for each model no.	
	Stability & Mechanical Hazards	20	IS 302-2-80			
	Mechanical Strength	21	IS 302-2-80	Three	Once a month for each model no.	
	Construction	22	IS 302-2-80	Three		
	Internal Wiring	23	IS 302-2-80	Three	Every six months for each model no.	
	Components	24	IS 302-2-80	Three		
	Supply Connection & External Flexible Cords	25	IS 302-2-80	Three		
	Terminals for External Conductors	26	IS 302-2-80	Three		
	Provision for Earthing	27	IS 302-2-80	Every fan		
	Screws and Connections	28	IS 302-2-80	Three	Every six months for each model no.	
	Clearances, Creepage Distances & Solid Insulation	29	IS 302-2-80			
	Resistance to Heat and Fire	30	IS 302-2-80			
	Resistance to Rusting	31	IS 302-2-80			
	Radiation, Toxicity & Similar Hazards	32	IS 302-2-80			
15	Performance Requirements	14.3, 15	IS 374	Three	Each control unit	
14.4 & 14.5	Speed and Power Factor	14.4 & 14.5	IS 374			
10.1 to 10.6, 10.8	Speed Regulator	10.1 to 10.6, 10.8	IS 374	Once a week for each model no.		
10.7	Speed Regulator	10.7	IS 374 IS 11037, IS 14700 (Part 3/Sec 2)	Each consignment		*
11	Starting	11	IS 374	Three	Each control unit	
12	Interchangeability	12	IS 374			
13	Silent Operation	13	IS 374			
17	Test for Harmonic Distortion	17	IS 374	Three	Every six months for each model no.	
16	Endurance Test	16	IS 374	Three	Once a month for each model no.	

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