

**SPECIFICATION FOR PERFORMANCE AND CONSTRUCTION
OF ELECTRIC CIRCULATING FANS AND REGULATORS**

AMENDMENT NO. 1

February 1992

1. **Page 7, Subclause 2.2 Table or cabin type fan**

Delete the entire existing subclause and *substitute* the following:

"A smaller-diameter propeller-bladed fan having two or more blades, and intended for use with free inlet and outlet of air. In addition to table type fans, this includes bracket-mounted fan for wall or ceiling mounting."

2. **Page 11**

Insert the following new subclause after the existing Subclause 2.14:

"2.15 Regulator. A device for controlling the speed of the motor.

Note: If the speed is controlled by only a multi-position switch for selecting tappings on the motor winding, the device is not defined as a regulator for the purpose of this specification."

3. **Page 11, Subclause 3.3, Table 1**

Add the following to the existing table:

Size of Fan (mm)	Minimum Number of Regulated Speeds	Type
500*	3	Oscillating or non-oscillating

*Applicable only to the wall-mounted type.

4. **Page 13, Clause 4 Frequency**

Delete the entire existing clause and *substitute* the following:

"The preferred frequency for a.c. fans shall be 50 Hz."

5. **Page 13, Subclause 5.3 Bearings**

Delete "lubrification" and *substitute* "lubrication" throughout the standard.

6. **Page 13, Subclause 5.4 Method of Mounting (for table/cabin and pedestal type fans)**

Delete the existing lines 3 and 4 and *substitute* the following:

"shall be 45° about the vertical axis and 7° about the horizontal axis, without changing the position of the fan."

Insert the following new subclauses after the existing Subclause 5.6:

"5.7 Suspension System

- 5.7.1** The complete suspension shall be supplied by the manufacturer. However, when a down rod of non-standard length is required, it may be supplied by someone other than the manufacturer. In either case, the suspension system shall be of adequate strength and shall satisfy the requirements in the following subclauses.
- 5.7.2** All joints of the suspension system shall be vibration-proof. Any screw or bolt and nut connection of the suspension system shall have a locking mechanism to prevent the joint from working loose under vibration. Metal plates used in the assembly, if any, shall have a minimum thickness of 2 mm. No part of any hole or slot, except slot openings, shall be closer than 5 mm from the edge.
- 5.7.3** Where the motor shaft is secured to the down rod by means of a cross through bolt and nut connection the following conditions shall be satisfied:
- i) Hardness of the bolt shall be not less than that of the motor shaft or the down rod.
 - ii) The shank of the bolt within the down rod shall not be threaded.
 - iii) No part of the hole through the motor shaft or down rod shall be closer than 5 mm from the end of the shaft or down rod.
 - iv) The joint shall be sufficiently rigid to allow no relative movement between the down rod and the motor shaft so as to prevent wear due to abrasion between the edges of the holes on the motor shaft or down rod and the shank of the through bolt, under all conditions of operation.
- 5.7.4** The motor shaft shall not be secured to the down rod by a screw thread on the shaft engaging a screw thread on the down rod or a screw thread on a coupling engaging a screw thread on the shaft or the down rod.
- 5.7.5** A safety cord shall be provided as a back-up to the main suspension system. One end of the cord shall be anchored to the fan while the other end shall be free to be passed through the down rod or fixing assembly and secured to the building structure from which the fan is suspended. The safety cord shall be anchored to the fan hook cast in concrete, if one is provided, or to an additional anchor satisfying Subclause 5.8.1, independent of the anchors for the main suspension.
- The safety cord assembly shall be strong enough to take 20 times the weight of the complete fan assembly and shall be capable of withstanding the twist resulting from the failure of the main suspension.
- 5.7.6** The installation instruction shall include the recommendation that the fan suspension system shall be examined regularly, but at least once in every two years. This recommendation shall be written on the fan and on the regulator or permanently attached to the fan and to the regulator and be visible to the user. The writing shall be legible and permanent.

5.8 Installation

5.8.1 The preferred means of suspension of the fan is from a fan hook anchored to the reinforcement bars and cast in concrete. Any other means of suspension shall be secured to the ceiling by the use of at least 3 approximately symmetrically distributed anchors. The anchors shall be able to withstand vibration without working loose.

Note: Expansion bolt type anchor is acceptable.
"Rawl" plug and screw is not acceptable.
"Ramseting" is not acceptable.

5.8.2 The safety cord provided according to Subclause 5.7.5, shall be long enough for it to be installed with some slack, so that in the event of failure of the main suspension, the fan body shall be dislodged sufficiently for the failure to be visible. But the cord shall not be too long for the fan to drop to a dangerously low level when supported by the cord.

5.8.3 In the event of failure of the main suspension, with the safety cord supporting the fan, the body of the fan assembly shall still be effectively earthed."

8. Page 13, Subclause 6.2

Delete the existing lines 2 and 3 and *substitute* the following:

"the case of ceiling/deck-head type fans and as specified in Subclauses 3.3 and 3.4 for other types of fans, with the speed stops being equal as far as possible."

9. Page 13

Insert the following new subclauses after the existing Subclause 6.2:

6.3 The different positions of the regulator shall be clearly marked, with the "OFF" position indicated by "O" or "OFF".

If numbers are used, greater speed shall be indicated by higher number.

6.4 The mechanism of the regulator shall ensure positive contact at each running position. In the case of induction type regulators, it is essential that no portion of the inductor winding can remain permanently short-circuited in any of the running positions."

10. Page 15, Subclause 9.3.2

Delete the entire existing subclause and *substitute* the following:

"The fans shall be tested at 50 Hz".

11. Page 17, Subclause 9.4 Test for Air Performance

Delete "20 ± 5°C" and *substitute* "27 ± 2°C".

12. Page 21, Subclause 9.4.2 (d) Procedure for Test

Insert the following after line 6:

"If the fan is provided with louvres for directing the air-flow, such louvres shall be removed before the test."

13. **Page 21, Subclause 9.5 Measurement of Speed of the Fan**

Delete the existing lines 3 and 4 and *substitute* the following:

"affected. The regulator or speed selection switch, if any, shall be at the highest speed position and the oscillating mechanism, if any, shall be disconnected."

14. **Page 21, Subclause 9.6 Measurement of Power Factor (for a.c. Fans only) and Power Input**

Delete the existing lines 2 and 3 and *substitute* the following:

"associated with the fan shall be retained in the circuit. The regulator or speed selection switch, if provided, shall be set at the highest speed position and the oscillating mechanism and louvres, if any, shall be in operation. Power Input (W)..."