

# **SVENSK STANDARD**

# SS-EN IEC 60335-2-80+A11, utg 3:2025

Fastställd 2025-04-02 <sup>Sida</sup> 1 (44)

Ansvarig kommitté SEK TK 61

© Copyright SEK Svensk Elstandard. Reproduction in any form without permission is prohibited.

# Elektriska hushållsapparater och liknande bruksföremål – Säkerhet – Del 2-80: Särskilda fordringar på fläktar

Household and similar electrical appliances – Safety – Part 2-80: Particular requirements for fans

Som svensk standard gäller europastandarden EN IEC 60335-2-80:2024. Den svenska standarden innehåller de officiella engelska språkversionerna av EN IEC 60335-2-80:2024 och EN IEC 60335-2-80:2024/A11:2024

### Nationellt förord

Europastandarden EN IEC 60335-2-80:2024

består av:

- europastandardens ikraftsättningsdokument, utarbetat inom CENELEC
- IEC 60335-2-80, Third edition, 2015 Household and similar electrical appliances Safety Part 2-80: Particular requirements for fans

utarbetad inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN 60335-1, utg 5:2012.

Tidigare fastställd svensk standard SS-EN 60335-2-80, utg 2:2003 med eventuella tillägg, ändringar och rättelser gäller ej fr o m 2027-11-15.

#### ICS 23.120.00

Denna standard är fastställd av SEK Svensk Elstandard, som också kan lämna upplysningar om **sakinnehållet** i standarden. Postadress: Box 1042, 172 21 Sundbyberg Telefon: 08 - 444 14 00. E-post: sek@elstandard.se. Internet: elstandard.se

#### Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

Genom att utforma sådana standarder blir säkerhetsfordringar tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

#### SEK är Sveriges röst i standardiseringsarbetet inom elområdet

SEK Svensk Elstandard svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

#### Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

#### Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

#### SEK Svensk Elstandard

Box 1042 172 21 Sundbyberg Tel 08-444 14 00 elstandard.se

# EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

# EN IEC 60335-2-80

November 2024

ICS 13.120; 23.120

Supersedes EN 60335-2-80:2003; EN 60335-2-80:2003/A1:2004; EN 60335-2-80:2003/A2:2009

**English Version** 

# Household and similar electrical appliances - Safety - Part 2-80: Particular requirements for fans (IEC 60335-2-80:2015)

Appareils électrodomestiques et analogues - Sécurité -Partie 2-80: Exigences particulières pour les ventilateurs (IEC 60335-2-80:2015) Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke - Teil 2-80: Besondere Anforderungen für Ventilatoren (IEC 60335-2-80:2015)

This European Standard was approved by CENELEC on 2024-08-07. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.



European Committee for Electrotechnical Standardization Comité Européen de Normalisation Electrotechnique Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

© 2024 CENELEC All rights of exploitation in any form and by any means reserved worldwide for CENELEC Members.

Ref. No. EN IEC 60335-2-80:2024 E

# **European foreword**

This document (EN IEC 60335-2-80:2024) consists of the text of document IEC 60335-2-80:2015, prepared by IEC/TC 61 "Safety of household and similar electrical appliances".

The following dates are fixed:

•	latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2025-05-15
•	latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2027-11-15

This document supersedes EN 60335-2-80:2003 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document is read in conjunction with EN IEC 60335-2-80:2024/A11:2024.

This document has been prepared under a standardization request addressed to CENELEC by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

## Endorsement notice

The text of the International Standard IEC 60335-2-80:2015 was approved by CENELEC as a European Standard without any modification.





Edition 3.0 2015-04

# INTERNATIONAL STANDARD



Household and similar electrical appliances – Safety – Part 2-80: Particular requirements for fans

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ICS 23.120

ISBN 978-2-8322-2601-8

Warning! Make sure that you obtained this publication from an authorized distributor.

® Registered trademark of the International Electrotechnical Commission

# CONTENTS

FOF	REWORD	4
INTE	RODUCTION	7
1	Scope	8
2	Normative references	9
3	Terms and definitions	9
4	General requirement	9
5	General conditions for the tests	9
6	Classification	10
7	Marking and instructions	10
8	Protection against access to live parts	11
9	Starting of motor-operated appliances	11
10	Power input and current	11
11	Heating	12
12	Void	12
13	Leakage current and electric strength at operating temperature	12
14	Transient overvoltages	12
15	Moisture resistance	12
16	Leakage current and electric strength	12
17	Overload protection of transformers and associated circuits	12
18	Endurance	12
19	Abnormal operation	13
20	Stability and mechanical hazards	13
21	Mechanical strength	14
22	Construction	14
23	Internal wiring	16
24	Components	16
25	Supply connection and external flexible cords	16
26	Terminals for external conductors	16
27	Provision for earthing	16
28	Screws and connections	17
29	Clearances, creepage distances and solid insulation	17
30	Resistance to heat and fire	17
31	Resistance to rusting	17
32	Radiation, toxicity and similar hazards	17
Ann	exes	24
Bibli	ography	25
Figu	re 101 – Subclause 22.102.1 – Example	18
Figu	re 102 – Test pin	19
-	re 103 – Subclause 22.102.2 – Example	
Figu	re 104 – Subclause 22.102.3 – Example	21

Figure 105 – Subclause 22.102.4 – Example	22
Figure 106 – Subclause 22.102.5 – Example 1	23

#### INTERNATIONAL ELECTROTECHNICAL COMMISSION

## HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

#### Part 2-80: Particular requirements for fans

### FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

This part of International Standard IEC 60335 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

This third edition cancels and replaces the second edition published in 2002 including its Amendment 1 (2004) and its Amendment 2 (2008). It constitutes a technical revision.

The principal changes in this edition as compared with the second edition of IEC 60335-2-80 are as follows (minor changes are not listed):

- added definition for ceiling fan suspension system (3.102);
- added instructions for ceiling fan maintenance (7.12);
- added instructions for ceiling fan installation (7.12.1);
- added entrapment assessment criteria for table and pedestal fan with a fan head that oscillates in the up-down direction (20.102);

- added requirements for insulation of pre-installed internal wiring used to supply attached luminaires (22.101);
- added suspension system failure protection requirements for ceiling fans (22.102);
- added motor brush wear requirements (27.3).

The text of this standard is based on the following documents:

FDIS	Report on voting
61/4878/FDIS	61/4914/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This part 2 is to be used in conjunction with the latest edition of IEC 60335-1 and its amendments. It was established on the basis of the fifth edition (2010) of that standard.

NOTE 1 When "Part 1" is mentioned in this standard, it refers to IEC 60335-1.

This part 2 supplements or modifies the corresponding clauses in IEC 60335-1, so as to convert that publication into the IEC standard: Safety requirements for fans.

When a particular subclause of Part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. When this standard states "addition", "modification" or "replacement", the relevant text in Part 1 is to be adapted accordingly.

NOTE 2 The following numbering system is used:

- subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause;
- additional annexes are lettered AA, BB, etc.

NOTE 3 The following print types are used:

- requirements: in roman type;
- test specifications: in italic type;
- notes: in small roman type.

Words in **bold** in the text are defined in Clause 3. When a definition concerns an adjective, the adjective and the associated noun are also in bold.

A list of all parts of the IEC 60335 series, under the general title: *Household and similar electrical appliances – Safety*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

NOTE 4 The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations may need a transitional period following publication of a new, amended or revised IEC publication in which to make products in accordance with the new requirements and to equip themselves for conducting new or revised tests.

- 6 -

It is the recommendation of the committee that the content of this publication be adopted for implementation nationally not earlier than 12 months or later than 36 months from the date of publication.

The following differences exist in the countries indicated below.

- 6.2: This requirement is not applicable (USA).
- 7.1: The "T" marking is not required (USA).
- 7.12.1: Other mounting heights are specified and have to be marked on the appliance (USA).
- 19.7: The addition is not applicable (USA).
- 20.2: The requirements are different (USA).
- 21.102: The loads are different (USA).
- 22.102.1: The requirement is not applicable (USA).
- 22.102.2: The requirement is not applicable (USA).
- Figure 101 Example 1: The requirement is not applicable (China, USA).
- Figure 101 Example 2: The requirement is not applicable (China, USA).
- Figure 101 Example 3: This requirement is not applicable (MY).
- Figure 101 Example 4: This requirement is not applicable (MY).
- Figure 101 Example 5: This requirement is not applicable (MY).
- Figure 101 Example 6: This requirement is not applicable (MY).
- 23.3: Different requirements apply (USA).
- 24.101: The requirement is not applicable (USA).

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

#### INTRODUCTION

It has been assumed in the drafting of this International Standard that the execution of its provisions is entrusted to appropriately qualified and experienced persons.

This standard recognizes the internationally accepted level of protection against hazards such as electrical, mechanical, thermal, fire and radiation of appliances when operated as in normal use taking into account the manufacturer's instructions. It also covers abnormal situations that can be expected in practice and takes into account the way in which electromagnetic phenomena can affect the safe operation of appliances.

This standard takes into account the requirements of IEC 60364 as far as possible so that there is compatibility with the wiring rules when the appliance is connected to the supply mains. However, national wiring rules may differ.

If an appliance within the scope of this standard also incorporates functions that are covered by another part 2 of IEC 60335, the relevant part 2 is applied to each function separately, as far as is reasonable. If applicable, the influence of one function on the other is taken into account.

When a part 2 standard does not include additional requirements to cover hazards dealt with in Part 1, Part 1 applies.

NOTE 1 This means that the technical committees responsible for the part 2 standards have determined that it is not necessary to specify particular requirements for the appliance in question over and above the general requirements.

This standard is a product family standard dealing with the safety of appliances and takes precedence over horizontal and generic standards covering the same subject.

NOTE 2 Horizontal and generic standards covering a hazard are not applicable since they have been taken into consideration when developing the general and particular requirements for the IEC 60335 series of standards. For example, in the case of temperature requirements for surfaces on many appliances, generic standards, such as ISO 13732-1 for hot surfaces, are not applicable in addition to Part 1 or part 2 standards.

An appliance that complies with the text of this standard will not necessarily be considered to comply with the safety principles of the standard if, when examined and tested, it is found to have other features that impair the level of safety covered by these requirements.

An appliance employing materials or having forms of construction differing from those detailed in the requirements of this standard may be examined and tested according to the intent of the requirements and, if found to be substantially equivalent, may be considered to comply with the standard.

# HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

- 8 -

# Part 2-80: Particular requirements for fans

# 1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electric fans for household and similar purposes, their **rated voltage** being not more than 250 V for single-phase appliances and 480 V for other appliances.

NOTE 101 Examples of fans that are within the scope of this standard are

- ceiling fans;
- duct fans;
- partition fans;
- pedestal fans;
- table fans.

This standard also applies to separate controls supplied with fans.

Appliances not intended for normal household use but which nevertheless may be a source of danger to the public, such as appliances intended for use in shops, in light industry and on farms, are within the scope of this standard.

As far as is practicable, this standard deals with the common hazards presented by appliances that are encountered by all persons in and around the home. However, in general, it does not take into account

- persons (including children) whose
  - physical, sensory or mental capabilities; or
  - lack of experience and knowledge

prevents them from using the appliance safely without supervision or instruction;

- children playing with the appliance.

NOTE 102 Attention is drawn to the fact that

- for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements may be necessary;
- in many countries additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour and similar authorities.

NOTE 103 This standard does not apply to

- appliances intended exclusively for industrial purposes;
- appliances intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas);
- fans incorporated in other appliances.

IEC 60335-2-80:2015 © IEC 2015 - 9 -

## 2 Normative references

This clause of Part 1 is applicable except as follows.

Addition:

IEC 60245-3, Rubber insulated cables – Rated voltages up to and including 450/750 V – Part 3: Heat resistant silicone insulated cables