SVENSK STANDARD

SS-EN IEC 60721-3-9, utg 2:2025

Fastställd	Sida	Ansvarig kommitté
2025-02-05	1 (20)	SEK TK 104

Miljöklassificering – Del 3-9: Grupper av miljöfaktorer och deras strängheter – Mikroklimat inuti produkter

Classification of environmental conditions –
Part 3: Classification of groups of environmental parameters and their severities –
Section 9: Microclimates inside products

Som svensk standard gäller europastandarden EN IEC 60721-3-9:2024. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60721-3-9:2024.

Nationellt förord

Europastandarden EN IEC 60721-3-9:2024

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 60721-3-9, Second edition, 2024 - Classification of environmental conditions – Part 3: Classification of groups of environmental parameters and their severities – Section 9: Microclimates inside products**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 60721-3-9, utg 1:2001 med eventuella tillägg, ändringar och rättelser gäller ej fr o m 2027-05-16.

ICS 19.040.00

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 60721-3-9

May 2024

ICS 19.040

Supersedes EN 60721-3-9:1993;
EN 60721-3-9:1993/A1:1995

English Version

Classification of environmental conditions - Part 3-9: Classification of groups of environmental parameters and their severities - Microclimates inside products (IEC 60721-3-9:2024)

Classification des conditions d'environnement - Partie 3-9: Classification des groupements des agents d'environnement et de leurs sévérités - Microclimats à l'intérieur des produits (IEC 60721-3-9:2024)

Klassifizierung von Umgebungsbedingungen - Teil 3-9: Klassen von Einflussgrößen und deren Grenzwerte - Mikroklimate innerhalb von Erzeugnissen (IEC 60721-3-9:2024)

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

Ref. No. EN IEC 60721-3-9:2024 E

SEK Svensk Elstandard

SS-EN IEC 60721-3-9, utg 2:2025

European foreword

The text of document 104/1041/FDIS, future edition 2 of IEC 60721-3-9, prepared by IEC/TC 104 "Environmental conditions, classification and methods of test" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60721-3-9:2024.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2025-02-16
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2027-05-16

This document supersedes EN 60721-3-9:1993 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.

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 60721-3-9:2024 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60721-2-1:2013 NOTE Approved as EN 60721-2-1:2014 (not modified)

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cencenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60721-1	-	Classification of environmental conditions - Part 1: Environmental parameters and their severities	EN 60721-1	-
IEC 60721-3-0	2020	Classification of environmental conditions - Part 3-0: Classification of groups of environmental parameters and their severities - Introduction	EN IEC 60721-3-0	2020
IEC 60721-3-3	2019	Classification of environmental conditions - Part 3-3: Classification of groups of environmental parameters and their severities - Stationary use at weatherprotected locations	EN IEC 60721-3-3	2019
IEC 60721-3-4	2019	Classification of environmental conditions - Part 3-4: Classification of groups of environmental parameters and their severities - Stationary use at non-weatherprotected locations	EN IEC 60721-3-4	2019

IEC 60721-3-9

Edition 2.0 2024-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Classification of environmental conditions – Part 3-9: Classification of groups of environmental parameters and their severities – Microclimates inside products

Classification des conditions d'environnement – Partie 3-9: Classification des groupements des agents d'environnement et de leurs sévérités – Microclimats à l'intérieur des produits

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 19.040

ISBN 978-2-8322-8626-5

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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CLASSIFICATION OF ENVIRONMENTAL CONDITIONS –

Part 3-9: Classification of groups of environmental parameters and their severities – Microclimates inside products

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.
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9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at https://patents.iec.ch. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 60721-3-9 has been prepared by IEC technical committee 104: Environmental conditions, classification and methods of test. It is an International Standard.

This second edition cancels and replaces the first edition published in 1993, Amendment 1:1994 and Corrigendum 1:1995. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) Clause 2 has been updated;
b) Clause 4 has been re-edited and simplified;
c) Annex A has been revised and updated;

d) a new Annex B has been added and gives the origin of the constitutional diagram for humid air, which is the basis of drawing the climatogram for a microclimate.

The text of this International Standard is based on the following documents:

Draft	Report on voting
104/1041/FDIS	104/1050/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 60721 series, published under the general title *Classification of environmental conditions*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

IMPORTANT – The "colour inside" logo on the cover page of this document 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.

CLASSIFICATION OF ENVIRONMENTAL CONDITIONS –

Part 3-9: Classification of groups of environmental parameters and their severities – Microclimates inside products

1 Scope

This part of IEC 60721 classifies groups of microclimatic conditions, to which components (basic parts, assemblies, built-in units) can be subjected inside products, which are used under the climatic conditions as classified in IEC 60721-3-3 and IEC 60721-3-4.

Characteristic parameters for the microclimates are high air temperature and high relative air humidity. Further parameters of the climatic classes, for example low temperature, can affect the components additionally, but have not been considered here.

A limited number of microclimatic classes is specified taking into consideration typical limiting high air temperatures of components.

NOTE The term "microclimate" can, for example in meteorology or buildings, have a different meaning than those discussed in this document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60721-1, *Classification of environmental conditions − Part 1: Environmental parameters and their severities*

IEC 60721-3-0:2020, *Classification of environmental conditions – Part 3-0: Classification of groups of environmental parameters and their severities – Introduction*

IEC 60721-3-3:2019, *Classification of environmental conditions – Part 3-3: Classification of groups of environmental parameters and their severities – Stationary use at weatherprotected locations*

IEC 60721-3-4:2019, *Classification of environmental conditions – Part 3-4: Classification of groups of environmental parameters and their severities – Stationary use at non-weatherprotected locations*