

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

Miljöklassificering – Del 3-4: Grupper av miljöfaktorer och deras strängheter – Ej väderskyddad driftmiljö för stationär utrustning

Classification of environmental conditions –

Part 3-4: Classification of groups of environmental parameters and their severities –

Stationary use at non-weatherprotected locations

Som svensk standard gäller europastandarden EN IEC 60721-3-4:2019. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60721-3-4:2019.

Nationellt förord

Europastandarden EN IEC 60721-3-4:2019

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60721-3-4, Third edition, 2019 - Classification of environmental conditions - Part 3-4: Classification of groups of environmental parameters and their severities - Stationary use at non-weatherprotected locations**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 60721-3-4, utgåva 1, 2001 och SS-EN 60721-3-4/A1, utgåva 1, 2001, gäller ej från 2022-06-26.

ICS 19.040.00

Denna standard är fastställd av SEK Svensk Elstandard, som också kan lämna upplysningar om **sakinnehållet** i standarden.
Postadress: Box 1284, 164 29 KISTA
Telefon: 08 - 444 14 00.
E-post: sek@elstandard.se. Internet: www.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 1284
164 29 Kista
Tel 08-444 14 00
www.elstandard.se

English Version

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

Classification des conditions d'environnement - Partie 3-4:
Classification des groupements des agents
d'environnement et de leurs sévérités - Utilisation à poste
fixe, non protégé contre les intempéries
(IEC 60721-3-4:2019)

Klassifizierung von Umgebungsbedingungen - Teil 3-4:
Klassen von Einflussgrößen und deren Grenzwerte –
Ortsfester Einsatz, nicht wettergeschützt
(IEC 60721-3-4:2019)

This European Standard was approved by CENELEC on 2019-06-26. 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, Turkey 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

European foreword

The text of document 104/828/FDIS, future edition 3 of IEC 60721-3-4, 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 60721-3-4:2019.

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) 2020-03-26
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-06-26

This document supersedes EN 60721-3-4:1995 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.

Endorsement notice

The text of the International Standard IEC 60721-3-4:2019 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60068-2-27	NOTE	Harmonized as EN 60068-2-27
IEC 60068-3-3	NOTE	Harmonized as EN 60068-3-3
IEC 60721-2 (series)	NOTE	Harmonized as EN 60721-2 (series)
IEC 60721-1	NOTE	Harmonized as EN 60721-1
IEC 60721-2-1	NOTE	Harmonized as EN 60721-2-1
IEC 60721-2-2	NOTE	Harmonized as EN 60721-2-2
IEC 60721-2-3	NOTE	Harmonized as EN 60721-2-3
IEC 60721-2-4	NOTE	Harmonized as EN IEC 60721-2-4
IEC 60721-2-5	NOTE	Harmonized as HD 478.2.5 S1
IEC 60721-2-6:1990	NOTE	Harmonized as HD 478.2.6 S1:1993 (not modified)
IEC 60721-2-9	NOTE	Harmonized as EN 60721-2-9
IEC 60721-3 (series)	NOTE	Harmonized as EN 60721-3-9 (series)
IEC 60721-3-0	NOTE	Harmonized as EN 60721-3-0
IEC 60721-3-3	NOTE	Harmonized as EN 60721-3-3
ISO 9223	NOTE	Harmonized as EN ISO 9223

CONTENTS

FOREWORD.....	3
1 Scope.....	5
2 Normative references	5
3 Terms and definitions	5
4 General	6
5 Classification of groups of environmental parameters and their severities.....	7
5.1 General.....	7
5.2 Climatic conditions (K)	7
5.3 Special climatic conditions (Z).....	8
5.4 Biological conditions (B)	8
5.5 Chemically active substances (C)	8
5.6 Mechanically active substances (S)	8
5.7 Mechanical conditions (M)	8
Annex A (informative) Interdependence of air temperature, relative air humidity, and absolute air humidity.....	12
Annex B (informative) Definition of seismic environment	13
Bibliography.....	15
Figure A.1 – Climatogram of interdependence of air temperature, relative air humidity, and absolute air humidity	12
Table 1 – Classification of climatic conditions	9
Table 2 – Classification of special climatic conditions	10
Table 3 – Classification of biological conditions	10
Table 4 – Classification of mechanically active substances	10
Table 5 – Classification of mechanical conditions	11
Table B.1 – Correlation of seismic zones with expected magnitudes	14

INTERNATIONAL ELECTROTECHNICAL COMMISSION

CLASSIFICATION OF ENVIRONMENTAL CONDITIONS –**Part 3-4: Classification of groups of environmental parameters and their severities – Stationary use at non-weatherprotected locations**

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.
- 2) 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.

International Standard IEC 60721-3-4 has been prepared by IEC technical committee 104: Environmental conditions, classification, and methods of test.

This third edition cancels and replaces the second edition published in 1995 and Amendment 1:1996. This edition constitutes a technical revision.

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

- a) Clause 1: reworded.
- b) Clause 2: normative references have been updated.
- c) Clause 3: definitions have been updated.
- d) Clause 4: reworded and simplified.

- e) Clause 5: revised and updated. Several classes have been replaced by completely new classes based on the use of new information obtained from referenced technical reports.
- f) Defined values of chemically active substances are now by reference to ISO 9223.
- g) Tables 1 through 5: updated.

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

FDIS	Report on voting
104/828/FDIS	104/836/RVD

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

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

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 "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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

CLASSIFICATION OF ENVIRONMENTAL CONDITIONS –

Part 3-4: Classification of groups of environmental parameters and their severities – Stationary use at non-weatherprotected locations

1 Scope

This part of IEC 60721 classifies groups of environmental parameters and their severities to which products are subjected when installed for stationary use at non-weatherprotected locations. Weatherprotected locations where products can be mounted for stationary use permanently or temporarily are addressed in IEC 60721-3-3.

The environmental conditions specified in this document are limited to those which can directly affect the performance of products. Only environmental conditions as such are considered. No special description of the effects of these conditions on the products is provided.

Environmental conditions directly related to fire or explosion hazards, microclimate within a product, and conditions related to effects from ionizing radiation are excluded. Any other unforeseen incidents are also excluded.

A limited number of classes of environmental conditions is given, covering a broad field of application.

2 Normative references

There are no normative references in this document.