

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

## 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 60721-3-9:1993. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60721-3-9:1993.

### Nationellt förord

Europastandarden EN 60721-3-9:1993<sup>\*)</sup>

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60721-3-9, First edition, 1993 - 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.

Standarden ska användas tillsammans med SS-EN 60721-3-3 och SS-EN 60721-3-4.

Tidigare fastställd svensk standard SS-EN 60721, utgåva 3, 1997 och SS-EN 60721 T1, utgåva 1, 1998, gäller ej fr o m 2001-12-19.

---

<sup>\*)</sup> EN 60721-3-9:1993 ikraftsattes 2001-12-19 som SS-EN 60721-3-9 genom offentliggörande, d v s utan utgivning av något svenskt dokument.

### *Standarder underlättar utvecklingen och höjer elsäkerheten*

Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven 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](http://www.elstandard.se)

---

UDC 621.3:620.193

Descriptors: Electronic components, electrotechnical components, electric equipment, electronic equipment, environment, climate, climatic conditions, classification

ENGLISH VERSION

Classification of environmental conditions  
Part 3: Classification of groups of environmental parameters and their severities  
Section 9: Microclimates inside products  
(IEC 721-3-9:1993)

Classification des conditions d'environnement

Partie 3: Classification des groupements des agents d'environnement et de leurs sévérités

Section 9: Microclimats à l'intérieur des produits  
(CEI 721-3-9:1993)

Klassifizierung von Umweltbedingungen

Teil 3: Klassen von Umwelteinflußgrößen und deren Grenzwerte  
Hauptabschnitt 9: Mikroklimata innerhalb von Erzeugnissen

(IEC 721-3-9:1993)

---

This European Standard was approved by CENELEC on 1993-07-06. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B-1050 Brussels

FOREWORD

The text of document 75(CO)80, as prepared by IEC Technical Committee N° 75: Classification of environmental conditions, was submitted to the IEC-CENELEC parallel vote in October 1992.

The reference document was approved by CENELEC as EN 60721-3-9 on 6 July 1993.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1994-07-01
- latest date of withdrawal of conflicting national standards (dow) 1994-07-01

Annexes designated "normative" are part of the body of the standard. Annexes designated "informative" are given only for information. In this standard, annex A is informative and annex ZA is normative.

ENDORSEMENT NOTICE

The text of the International Standard IEC 721-3-9:1993 was approved by CENELEC as a European Standard without any modification.

-----

ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD  
WITH THE REFERENCES OF THE RELEVANT EUROPEAN PUBLICATIONS

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

NOTE : When the international publication has been modified by CENELEC common modifications, indicated by (mod), the relevant EN/HD applies.

IEC Publication	Date	Title	EN/HD	Date
-----	----	-----	-----	----
721-1	1990	Classification of environmental conditions - Part 1: Environmental parameters and their severities	HD 478.1 S1	1992
721-2-1 A1	1982 1987	Part 2: Environmental conditions appearing in nature Temperature and humidity	HD 478.2.1 S1	1989
721-3-0 A1	1984 1987	Part 3: Classification of groups of environmental parameters and their severities - Introduction	EN 60721-3-0	1993
721-3-3 A1	1987 1991	Stationary use at weatherprotected locations	EN 60721-3-3	1993
721-3-4 A1	1987 1991	Stationary use at non-weatherprotected locations	EN 60721-3-4	1993

## CONTENTS

	Page
Clause	
1 Scope .....	7
2 Normative references .....	7
3 Definitions .....	9
4 General .....	9
5 Classification of microclimatic conditions .....	11
6 Types and marking of microclimatic classes .....	13
Annex A .....	15

## CLASSIFICATION OF ENVIRONMENTAL CONDITIONS

### Part 3: Classification of groups of environmental parameters and their severities

#### Section 9: Microclimates inside products

##### 1 Scope

This section of IEC 721-3 defines classes of microclimatic conditions, to which components (basic parts, assemblies, built-in units) may be subjected inside products, which are used under the climatic conditions as classified in sections IEC 721-3-3 and IEC 721-3-4.

Characteristic parameters for the microclimates are high air temperature and high relative air humidity. Further parameters of the climatic classes e.g. low temperature may 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.

The user of this standard should select the lowest class necessary for covering the intended use.

##### 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this section of IEC 721-3. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this section of IEC 721-3 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 721-1: 1990, *Classification of environmental conditions – Part 1: Environmental parameters and their severities*

IEC 721-2-1: 1982, *Classification of environmental conditions – Part 2: Environmental conditions appearing in nature – Section 1: Temperature and humidity*  
Amendment 1 (1987)

IEC 721-3-0: 1984, *Classification of environmental conditions – Part 3: Classification of groups of environmental parameters and their severities – Section 0: Introduction*

Amendment 1 (1987)

IEC 721-3-3: 1987, *Classification of environmental conditions – Part 3: Classification of groups of environmental parameters and their severities – Section 3: Stationary use at weatherprotected locations*  
Amendment 1 (1991)

IEC 721-3-4: 1987, *Classification of environmental conditions – Part 3: Classification of groups of environmental parameters and their severities – Section 4: Stationary use at non-weatherprotected locations*  
Amendment 1 (1991)