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IEC 60721-3-1

Edition 3.0 2018-02
REDLINE VERSION

INTERNATIONAL STANDARD

colour inside

Classification of environmental conditions – Part 3-1: Classification of groups of environmental parameters and their severities – Storage

INTERNATIONAL
ELECTROTECHNICAL
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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CLASSIFICATION OF ENVIRONMENTAL CONDITIONS –

Part 3-1: Classification of groups of environmental parameters and their severities – Storage

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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International Standard IEC 60721-3-1 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 1997, and constitutes a technical revision.

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

a) Clause 3: reworded and simplified.
b) Clause 4: reworded and simplified.
c) Clause 5: Annex C has been incorporated in Clause 5.
d) 5.2: all existing climate classes have been replaced by completely new classes. The new classes are divided into 3 groups. The reason for the new classes is the latest revision of IEC 60721-2-1 which incorporated new climate types.
e) 5.3: new classes for solar radiation and snow load.
f) 5.6: all existing classes for mechanically active substances have been replaced by completely new classes.
g) 5.7: all existing classes for mechanical conditions have been replaced by completely new classes.
h) Table 1: new climatic classes with new severities.
i) Table 2: new classes for solar radiation and snow load.
j) Table 5 new mechanically active substances classes.
k) Table 6: new mechanical conditions classes.

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

FDIS	Report on voting
104/772/FDIS	104/782/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.

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CLASSIFICATION OF ENVIRONMENTAL CONDITIONS –

Part 3-1: Classification of groups of environmental parameters and their severities – Storage

1 Scope and object

This part of IEC 60721 classifies the groups of environmental parameters and their severities to which products together with their packaging, if any, are subjected when stored.

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

~~Transfer during storage is not included in the classification.~~

Environmental conditions directly related to fire or explosions ~~and conditions related to ionizing radiation are excluded~~ are not included. ~~Any other unforeseen incidents are also excluded. The possibility of their occurrence should be taken into account in special cases. Offshore locations are not included.~~

Conditions of stationary use, portable and non-stationary use, use in vehicles and ships, and conditions of transportation are given in other subparts of the IEC 60721-3 series.

The object of this document is to classify environmental parameters and their severities to which a product ~~may~~ can be exposed during storage. Transfer and handling during storage and transport are addressed in IEC 60721-3-2.

~~A limited number of classes of environmental conditions is given, covering a broad field of application. The user of this standard should select the lowest classification necessary for covering the conditions of intended storage.~~

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 721-1: 1990, *Classification of environmental conditions – Part 1: Environmental parameters and their severities*~~
~~Amendment 1 (1992)~~

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

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~~IEC 721-3-0: 1984, *Classification of environmental conditions – Part 3: Classification of groups of environmental parameters and their severities – Introduction*~~
~~Amendment 1 (1987)~~

~~IEC 60721-3-2: 1997, *Classification of environmental conditions – Part 3: Classification of environmental parameters and their severities – Section 2: Transportation*~~

~~IEC 721-3-3: 1994, *Classification of environmental conditions – Part 3: Classification of environmental parameters and their severities – Section 3: Stationary use at weatherprotected locations*~~

~~IEC 721-3-4: 1995, *Classification of environmental conditions – Part 3: Classification of environmental parameters and their severities – Section 4: Stationary use at non-weatherprotected locations*~~

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Classification of environmental conditions – Part 3-1: Classification of groups of environmental parameters and their severities – Storage

Classification des conditions d'environnement – Partie 3-1: Classification des groupements des agents d'environnement et de leurs sévérités – Stockage

IEC 60721-3-1:2018-02(en-fr)

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CLASSIFICATION OF ENVIRONMENTAL CONDITIONS –

Part 3-1: Classification of groups of environmental parameters and their severities – Storage

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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a) Clause 3: reworded and simplified.
b) Clause 4: reworded and simplified.
c) Clause 5: Annex C has been incorporated in Clause 5.

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d) 5.2: all existing climate classes have been replaced by completely new classes. The new classes are divided into 3 groups. The reason for the new classes is the latest revision of IEC 60721-2-1 which incorporated new climate types.

e) 5.3: new classes for solar radiation and snow load.

f) 5.6: all existing classes for mechanically active substances have been replaced by completely new classes.

g) 5.7: all existing classes for mechanical conditions have been replaced by completely new classes.

h) Table 1: new climatic classes with new severities.

i) Table 2: new classes for solar radiation and snow load.

j) Table 5 new mechanically active substances classes.

k) Table 6: new mechanical conditions classes.

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FDIS	Report on voting
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CLASSIFICATION OF ENVIRONMENTAL CONDITIONS –

Part 3-1: Classification of groups of environmental parameters and their severities – Storage

1 Scope and object

This part of IEC 60721 classifies the groups of environmental parameters and their severities to which products together with their packaging, if any, are subjected when stored.

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

Environmental conditions directly related to fire or explosions are not included.

Conditions of stationary use, portable and non-stationary use, use in vehicles and ships, and conditions of transportation are given in other subparts of the IEC 60721-3 series.

The object of this document is to classify environmental parameters and their severities to which a product can be exposed during storage. Transfer and handling during storage and transport are addressed in IEC 60721-3-2.

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*

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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CLASSIFICATION DES CONDITIONS D'ENVIRONNEMENT –

Partie 3-1: Classification des groupements des agents d'environnement et de leurs sévérités – Stockage

AVANT-PROPOS

1) La Commission Electrotechnique Internationale (IEC) est une organisation mondiale de normalisation composée de l'ensemble des comités électrotechniques nationaux (Comités nationaux de l'IEC). L'IEC a pour objet de favoriser la coopération internationale pour toutes les questions de normalisation dans les domaines de l'électricité et de l'électronique. A cet effet, l'IEC – entre autres activités – publie des Normes internationales, des Spécifications techniques, des Rapports techniques, des Spécifications accessibles au public (PAS) et des Guides (ci-après dénommés "Publication(s) de l'IEC"). Leur élaboration est confiée à des comités d'études, aux travaux desquels tout Comité national intéressé par le sujet traité peut participer. Les organisations internationales, gouvernementales et non gouvernementales, en liaison avec l'IEC, participent également aux travaux. L'IEC collabore étroitement avec l'Organisation Internationale de Normalisation (ISO), selon des conditions fixées par accord entre les deux organisations.
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La Norme internationale IEC 60721-3-1 a été établie par le comité d'études 104 de l'IEC: Conditions, classification et essais d'environnement.

Cette troisième édition annule et remplace la deuxième édition, parue en 1997. Elle constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

a) Article 3: reformulé et simplifié.
b) Article 4: reformulé et simplifié.
c) Article 5: l'Annexe C a été intégrée dans l'Article 5.

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d) 5.2: toutes les catégories climatiques existantes ont été remplacées par des catégories complètement nouvelles. Les nouvelles catégories ont été divisées en 3 groupes. Ces catégories nouvelles ont été créées en raison de l'intégration de nouveaux types de climats dans la dernière révision de l'IEC 60721-2-1,

e) 5.3: nouvelles catégories pour le rayonnement solaire et la charge de neige.

f) 5.6: toutes les catégories existantes de substances mécaniquement actives ont été remplacées par des catégories complètement nouvelles.

g) 5.7: toutes les catégories de conditions mécaniques existantes ont été remplacées par des catégories complètement nouvelles.

h) Tableau 1: nouvelles catégories climatiques avec de nouvelles sévérités.

i) Tableau 2: nouvelles catégories pour le rayonnement solaire et la charge de neige.

j) Tableau 5: nouvelles catégories de substances mécaniquement actives.

k) Tableau 6: nouvelles catégories de conditions mécaniques.

Le texte de cette Norme internationale est issu des documents suivants:

FDIS	Rapport de vote
104/772/FDIS	104/782/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à l'approbation de cette norme.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2.

Une liste de toutes les parties de la série IEC 60721, publiées sous le titre général *Classification des conditions d'environnement*, peut être consultée sur le site web de l'IEC.

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CLASSIFICATION DES CONDITIONS D'ENVIRONNEMENT –

Partie 3-1: Classification des groupements des agents d'environnement et de leurs sévérités – Stockage

1 Domaine d'application et objet

La présente partie de l'IEC 60721 classifie les groupements d'agents d'environnement et leurs sévérités auxquels des produits, éventuellement emballés, sont soumis lorsqu'ils sont stockés.

Les conditions d'environnement spécifiées dans le présent document se limitent à celles qui sont susceptibles d'influencer directement les produits ou leur comportement ultérieur. Seules de telles conditions sont prises en considération, aucune description particulière de leurs effets sur les produits n'étant donnée.

Les conditions d'environnement directement liées aux risques d'incendie ou d'explosion ne sont pas incluses.

Les conditions pour une utilisation à poste fixe ou en déplacement, à bord de véhicules ou de navires, et les conditions de transport sont données dans d'autres sous-parties de la série IEC 60721-3.

La présente norme a pour objet de classifier les agents d'environnement et leurs sévérités auxquels un produit peut être exposé pendant qu'il est stocké. Le transfert et la manipulation durant le stockage et le transport sont traités dans l'IEC 60721-3-2.

2 Références normatives

Les documents suivants cités dans le texte constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 60721-1, *Classification des conditions d'environnement – Partie 1: Agents d'environnement et leurs sévérités*