This is a preview of IEC 60721-3-7 Ed. 3.0 en:2026. Click here to purchase the full version from the ANSI store.

Edition 3.0 2026-02

INTERNATIONAL STANDARD

Classification of environmental conditions - Part 3-7: Classification of groups of environmental parameters and their severities - Portable and non-stationary use

ICS 19.040

ISBN 978-2-8327-1038-8

IEC 60721-3-7:2026-02(en)

This is a preview of IEC 60721-3-7 Ed. 3.0 en:2026. Click here to purchase the full version from the ANSI store.

FOREWORD 2
1 Scope 4
2 Normative references 4
3 Terms and definitions 4
4 General 5
5 Classification of groups of environmental parameters and their severities 6
5.1 General 6
5.2 Climatic conditions (K) 6
5.3 Special climatic conditions (Z) 10
5.4 Biological conditions (B) 10
5.5 Chemically active substances (C) 11
5.6 Mechanically active substances (S) 12
5.7 Mechanical conditions (M) 13
Bibliography 16

Figure 1 – Stationary vibration, sinusoidal 14
Figure 2 – Stationary vibration, random 15
Figure 3 – Non-stationary shock conditions 15

Table 1 – Classification of climatic conditions 8
Table 2 – Classification of special climatic conditions 10
Table 3 – Classification of biological conditions 11
Table 4 – Classification of chemically active substances 12
Table 5 – Classification of mechanically active substances 13
Table 6 – Classification of mechanical conditions 13

This is a preview of IEC 60721-3-7 Ed. 3.0 en:2026. Click here to purchase the full version from the ANSI store.

Classification of environmental conditions - Part 3-7: Classification of groups of environmental parameters and their severities - Portable and non-stationary use

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) 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 60721-3-7 has been prepared by IEC technical committee 104: Environmental conditions, classification and methods of test. It is an International Standard.

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) most classes have been replaced by completely new classes based on the use of new information obtained from referenced Technical Reports;

b) Table 1 through to Table 5 have been updated;

c) the content of the five informative annexes has either been incorporated into the main body of the document or deleted.

This is a preview of IEC 60721-3-7 Ed. 3.0 en:2026. Click here to purchase the full version from the ANSI store.

Draft	Report on voting
104/1139/FDIS	104/1155/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.

This is a preview of IEC 60721-3-7 Ed. 3.0 en:2026. Click here to purchase the full version from the ANSI store.

This part of IEC 60721 classifies the groups of environmental parameters and their severities to which products are subject to during portable and non-stationary use. This includes periods of transfer, down time, maintenance and repair.

The environmental conditions encompassed by these groups include the environmental conditions occurring

– at locations where the product can be placed or used temporarily, and
– during the transfer of products between different locations.

The conditions of portable and non-stationary use to which products can be exposed include land-based and offshore, weatherprotected, and non-weatherprotected locations. The conditions also include those occurring during transfer between locations.

The environmental conditions specified in this document are applicable to products which are frequently moved from place to place, particularly when the transfer time can be a significant proportion of the product's lifetime. During such transfer, the product is unlikely to have any special packaging.

The environmental conditions specified in this document do not consider the use profile of the product, i.e., whether the product is used only during a temporary stationary state, during the state of transfer or arbitrary.

Accidental incidents such as fire, explosion and other unforeseen incidents are not included. However, it can be important to take their occurrence into account in special cases.

Micro-climates occurring within a product are not included.

Classification for stationary use, storage and transportation environmental conditions are given in other subparts of the IEC 60721-3 series.

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*

This is a preview of IEC 60721-3-7 Ed. 3.0 en:2026. Click here to purchase the full version from the ANSI store.

IEC 60721-2-1, *Classification of environmental conditions - Part 2-1: Environmental conditions appearing in nature - Temperature and humidity.*

IEC 60721-2-2, *Classification of environmental conditions - Part 2-2: Environmental conditions appearing in nature - Precipitation and wind.*

IEC 60721-2-3, *Classification of environmental conditions - Part 2-3: Environmental conditions appearing in nature - Air pressure.*

IEC 60721-2-4, *Classification of environmental conditions - Part 2-4: Environmental conditions appearing in nature - Solar radiation and temperature.*

IEC 60721-2-5, *Classification of environmental conditions - Part 2-5: Environmental conditions appearing in nature - Dust, sand, salt mist*

IEC 60721-3 (all parts), *Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities.*

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

IEC 60721-3-7:1987, *Classification of environmental conditions - Part 3-7: Classification of groups of environmental parameters and their severities - Portable and non-stationary use*[1]

IEC 6721-3-7:1995, *Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities - Section 7: Portable and non-stationary use*

IEC TR 62130, *Climatic field data including validation*

IEC TR 62131-3, *Environmental conditions - Vibration and shock of electrotechnical equipment - Part 3: Equipment transported in rail vehicles*

IEC TR 62131-4, *Environmental conditions - Vibration and shock of electrotechnical equipment - Part 4: Equipment transported in road vehicles*

IEC TR 62131-5, *Environmental conditions - Vibration and shock of electrotechnical equipment - Part 5: Equipment during storage and handling*

IEC TR 62131-8, *Environmental conditions - Vibration and shock of electrotechnical equipment - Part 8: Transported by ship*

ISO 9223, *Corrosion of metals and alloys*

---

[1] This publication has been withdrawn.