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Part 3-5: Classification of groups of environmental parameters and their severities - Ground vehicle installations

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Classification of environmental conditions - Part 3-5: Classification of groups of environmental parameters and their severities - Ground vehicle installations

FOREWORD

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IEC 60721-3-5 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 1997. 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a) most classes have been replaced by completely new classes based on the use of additional information obtained from referenced Technical Reports;
b) Table 1 through to Table 7 have been reviewed and updated;
c) the content of Annex A and Annex B has either been incorporated into the main body of the document or deleted.

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

Draft	Report on voting
104/1138/FDIS	104/1146/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– withdrawn, or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.

1 Scope

This part of IEC 60721 classifies the groups of environmental parameters and their severities to which a product, not forming part of the vehicle, is subjected when installed on or in a ground vehicle. Such products are for example radios, communication systems, fare meters, flow meters for liquids transported by the vehicle, for example milk, petroleum products, etc. Vehicles where products can be permanently or temporarily installed include

– road vehicles: passenger cars, commercial vehicles, special vehicles, towing vehicles, trailers, mopeds, motorcycles,
– rail vehicles: trains, trams,
– tracked vehicles: excavators, cranes, rubber tracked vehicles,
– overland vehicles: four-wheel drive cars, tractors, snow scooters,
– handling and storage vehicles: fork-lift trucks (manual and robot), luggage transporters, and
– self-propelled machinery: diggers, harvesters.

Although this document is not intended for products forming part of the vehicles, the environmental condition classification can also be used for some exchangeable parts, installed in a similar way and in the same locations of the vehicle as products which do not form part of the vehicle. Only severe conditions which can be harmful to products are included.

Conditions of storage, transportation and handling are given in IEC 60721-3-1 and IEC 60721-3-2. Classification of storage and transportation environmental conditions are given in other subparts of the IEC 60721-3 series.

Accidental incidents are not included, but it can be important to take their occurrence into account for products vital to the safety of the ground vehicle.

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*

Bibliography

IEC 60068-2-74, *Environmental testing - Part 2: Tests - Test Xc: Fluid contamination*

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 - Section 5: 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 60721-3-1, *Classification of environmental conditions - Part 3-1 Classification of groups of environmental parameters and their severities - Storage*

IEC 60721-3-2, *Classification of environmental conditions - Part 3-2: Classification of groups of environmental parameters and their severities - Transportation and Handling*

IEC 60721-3-5:1985, *Classification of environmental conditions - Part 3-5: Classification of groups of environmental parameters and their severities - Ground vehicle installations*[1]

IEC 60721-3-5:1997, *Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities - Section 5: Ground vehicle installations*

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*

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[1] This publication has been withdrawn.