

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Classification of environmental conditions –
Part 2-2: Environmental conditions appearing in nature – Precipitation and wind**

**Classification des conditions d'environnement –
Partie 2-2: Conditions d'environnement présentes dans la nature – Précipitations
et vent**



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COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

CLASSIFICATION OF ENVIRONMENTAL CONDITIONS –**Part 2-2: Environmental conditions appearing in nature –
Precipitation and wind**

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IEC 60721-2-2 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 2012. This edition constitutes a technical revision.

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

- a) the layout of the information provided has been re-organized;
- b) the information provided has been extensively enhanced and revised;
- c) new information on wind severities has been included.

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

Draft	Report on voting
104/1066/FDIS	104/1074/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.

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INTRODUCTION

This part of IEC 60721 presents fundamental properties, quantities for characterization, and a classification of environmental conditions dependent on precipitation and wind relevant to electrotechnical products. The information presented is intended to be used as background material when selecting appropriate severities of parameters related to precipitation and wind for product applications.

Precipitation encompasses all forms of hydrometeors, both liquid and solid, which are free in the atmosphere, and which reach the Earth's surface. At altitudes below the freezing level, precipitation can occur as liquid or solid particles but above this level snow or hail will predominate. For this document, the different forms of hydrometeors are addressed separately and under the more commonly referred to meteorological conditions of rain, snow and hail. Also encompassed are icing conditions but only that occurring at ground level.

This document additionally and separately addresses wind.

The majority of the information presented in this document has been assembled by the UK Met Office from published sources as well as historical and forecasting weather records. The information has been assembled and maintained for the UK Ministry of Defence for equipment design and testing purposes [1]¹. The historical meteorological data employed for this work meets World Meteorological Organization criteria for validity. However, such data are only available from a limited number of worldwide locations (typically a few hundred). Forecasting weather records, which were extensively utilized for this work, are available from a significant number of locations (typically tens of thousands) but are not necessarily verified. Whenever the latter information has been used, an appropriate strategy was adopted to remove spurious data.

¹ Numbers in square brackets refer to the Bibliography.

CLASSIFICATION OF ENVIRONMENTAL CONDITIONS –

Part 2-2: Environmental conditions appearing in nature – Precipitation and wind

1 Scope

This part of IEC 60721 presents fundamental properties, quantities for characterization, and a classification of environmental conditions dependent on precipitation and wind relevant to electrotechnical products.

The information presented within this document is intended to be used as background material when selecting appropriate severities of parameters related to precipitation and wind for product applications.

For the purpose of this document, precipitation is considered to encompass all forms of hydrometeors, both liquid and solid, which are free in the atmosphere, and which reach the Earth's surface. The different forms of hydrometeors are addressed separately and under the more commonly referred to meteorological conditions of rain, snow and hail. Whilst icing conditions are additionally considered, only that occurring at ground level, is addressed.

This document separately addresses the climatic condition of wind and provides methodologies and quantitative information to enable wind severities and frequencies to be estimated worldwide.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

4 Rain

4.1 General

Rain is the primary focus of Clause 4 as it is the dominant meteorological condition associated with the wetting of electrotechnical products.