Classification of environmental conditions –

Part 3-3:
Classification of groups of environmental parameters and their severities –
Stationary use at weatherprotected locations
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

CLASSIFICATION OF ENVIRONMENTAL CONDITIONS –

Part 3-3: Classification of groups of environmental parameters and their severities – Stationary use at weatherprotected locations

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The 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 the 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 National Committees.

3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.

4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.

5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.

6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60721-3-3 has been prepared by IEC technical committee 104: Environmental conditions, classification and methods of test.1)

This consolidated version of IEC 60721-3-3 consists of the second edition (1994) [documents 75(CO)102A and 75(CO)110], its amendment 1 (1995) [documents 75/224/FDIS and 75/246/RVD] and its amendment 2 (1996) [documents 75/279/FDIS and 75/289/RVD].

The technical content is therefore identical to the base edition and its amendments and has been prepared for user convenience.

It bears the edition number 2.2.

A vertical line in the margin shows where the base publication has been modified by amendments 1 and 2.

IEC 60721 consists of the following parts, under the general title: Classification of environmental conditions:

– Part 1, Environmental parameters and their severities
– Part 2, Environmental conditions appearing in nature
– Part 3, Classification of groups of environmental parameters and their severities

Annexes A to D are for information only.

1) IEC technical committee 75: "Classification of environmental conditions" has been transformed into technical committee 104.
The committee has decided that the contents of the base publication and its amendments will remain unchanged until 2007. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.
CLASSIFICATION OF ENVIRONMENTAL CONDITIONS –

Part 3-3: Classification of groups of environmental parameters and their severities –
Stationary use at weatherprotected locations

1 Scope

This section of IEC 60721-3 classifies groups of environmental parameters and their severities to which products are subjected when mounted for stationary use at weather-protected locations under use conditions, including periods of erection work, down time, maintenance and repair.

Weatherprotected locations, where products may be mounted for stationary use permanently or temporarily, include land-based and offshore enclosed and sheltered locations. Use in and on vehicles is excepted.

Environmental conditions directly related to explosion hazards, fire extinction and ionizing radiation are excluded. 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 explosion hazards, fire extinction and ionizing radiation are excluded. Any other unforeseen incidents are also excluded. The possibility of their occurrence should be taken into account in special cases.

Microclimate within a product is not included.

Conditions of stationary use at non-weatherprotected locations, portable and non-stationary use, use in vehicles and ships, conditions of storage and transportation, and microclimates inside products are given in other sections of IEC 60721-3.

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 the intended use.

2 Normative references

The following referenced documents are indispensable for the application 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 60721-1:1990, Classification of environmental conditions – Part 1: Environmental parameters and their severities

IEC 60721-2-1:1982, Classification of environmental conditions – Part 2: Environmental conditions appearing in nature – Section 1: Temperature and humidity
Amendment 1 (1987)
3 Definitions

In addition to the definitions in clause 3 of IEC 60721-1 and ISO/IEC Guide 52, the following definitions apply:

3.1 stationary use
the product is mounted firmly on the structure or on mounting devices or it is permanently placed at a certain site. It is not intended for portable or non-stationary use, but short periods of handling during erection work, down time, maintenance and repair at the location are included.

3.2 weatherprotected location
a location at which the product is protected from weather influences:
– totally weatherprotected location (enclosed location): direct weather influences are totally excluded;
– partially weatherprotected location (sheltered location): direct weather influences are not totally excluded.

4 General

For further general guidance, see IEC 60721-3-0.

During periods of erection work, which are often connected with down time, the user should be aware that conditions might differ from those experienced during the period of operation. Therefore the selection of another class may be necessary for this period, unless special precautions have been taken.

The severities specified are those which will have a low probability of being exceeded. All specified values are maximum or limit values. These values may be reached, but do not occur permanently. Depending on the local situation there may be different frequencies of occurrence related to a certain period of time. Such frequencies of occurrence should be considered for any environmental parameter. They should additionally be specified if applicable. Information on duration and frequencies of occurrence is given in Amendment No. 1 to IEC 60721-3-0 as clause 6.

Attention is drawn to the fact that combinations of the environmental parameters given may increase the effect on a product. This applies especially to the presence of high relative humidity in addition to biological conditions or to conditions of chemically or mechanically active substances.