

BS EN 60721-2-3:2014

BS 7527-2-3:2014



BSI Standards Publication

Classification of environmental conditions

Part 2-3: Environmental conditions
appearing in nature — Air pressure

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National foreword

This British Standard is the UK implementation of EN 60721-2-3:2014. It is identical to IEC 60721-2-3:2013. It supersedes BS 7527-2.3:1991, which will be withdrawn on 19 November 2016.

The UK participation in its preparation was entrusted to Technical Committee GEL/104, Environmental conditions, classification and testing.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Amendments/corrigenda issued since publication

Date	Text affected
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English Version

**Classification of environmental conditions - Part 2-3:
Environmental conditions appearing in nature - Air pressure
(IEC 60721-2-3:2013)**

Classification des conditions d'environnement -
Partie 2-3: Conditions d'environnement présentes dans la
nature - Pression atmosphérique
(CEI 60721-2-3:2013)

Klassifizierung von Umgebungsbedingungen -
Teil 2-3: Natürliche Umgebungsbedingungen - Luftdruck
(IEC 60721-2-3:2013)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 104/611/FDIS, future edition 2 of IEC 60721-2-3, prepared by IEC/TC 104 "Environmental conditions, classification and methods of test" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60721-2-3:2014.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2014-12-20
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-07-24

This document supersedes HD 478.2.3 S1:1990.

EN 60721-2-3:2014 includes the following significant technical changes with respect to HD 478.2.3 S1:1990:

- removal of figures for decreasing cooling efficiency for altitude;
- simplification of Table 1;
- additional formula for calculating air pressure from altitude.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 60721-2-3:2013 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60721-1	-	Classification of environmental conditions - Part 1: Environmental parameters and their severities	EN 60721-1	-

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CLASSIFICATION OF ENVIRONMENTAL CONDITIONS –

Part 2-3: Environmental conditions appearing in nature – Air pressure

1 Scope

This part of IEC 60721 presents a selection of different values of air pressure appearing in nature. It is intended to be used as part of the background material when selecting appropriate severities of air pressure for product applications, which products are liable to be exposed during storage, transportation and use.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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*

3 Terms and definitions

Terms and definitions are defined, in context, throughout the present standard.

4 Air pressure effects

4.1 General

When selecting severities of the parameter air pressure for product application, the values given in IEC 60721-1 should be applied.

Air pressure can affect products in various ways, the most important of which are as follows:

4.2 Air pressure lower than normal

Low air pressure occurring at altitudes above sea-level can affect products as follows:

- leakage of gases or fluids from gasket-sealed containers;
- rupture of pressurized containers;
- change of physical and chemical properties of low density materials;
- erratic operation or malfunction of equipment from arcing or corona as the breakdown voltage between two electrodes in air decreases with pressure (the breakdown voltage of air in a uniform electric field depends on the product of the gas pressure and the electrode spacing for a given electrode shape and material (Paschen's law));
- decreased efficiency of heat dissipation by convection and conduction in air;
- acceleration of effects due essentially to temperature, for example volatilization of plasticizers, evaporation of lubricants, etc.