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Insulation co-ordination - Part 1: Definitions, principles and rules

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/20

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NORME EUROPÉENNE

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October 2019

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Supersedes EN 60071-1:2006 and all of its amendments
and corrigenda (if any)

English Version

**Insulation co-ordination - Part 1: Definitions, principles and rules
(IEC 60071-1:2019)**Coordination de l'isolement Partie 1: Définitions, principes
et règles
(IEC 60071-1:2019)Isolationskoordination - Teil 1: Begriffe, Grundsätze und
Anforderungen
(IEC 60071-1:2019)

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EN IEC 60071-1:2019 (E)**European foreword**

The text of document 99/199/CDV, future edition 9 of IEC 60071-1, prepared by IEC/TC 99 "Insulation co-ordination and system engineering of high voltage electrical power installations above 1,0 kV AC and 1,5 kV DC" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60071-1:2019.

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) 2020-06-12
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-09-12

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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60507	NOTE	Harmonized as EN 60507
IEC 60633	NOTE	Harmonized as EN IEC 60633

Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

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NOTE 1 Where 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 60038	-	IEC standard voltages	EN 60038	-
IEC 60060-1	-	High-voltage test techniques - Part 1: General definitions and test requirements	EN 60060-1	-
IEC 60071-2	-	Insulation co-ordination - Part 2: Application guidelines	EN IEC 60071-2	-
IEC 60099-4	-	Surge arresters - Part 4: Metal-oxide surge arresters without gaps for a.c. systems	EN 60099-4	-



IEC 60071-1

Edition 9.0 2019-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE



HORIZONTAL STANDARD
NORME HORIZONTALE

**Insulation co-ordination –
Part 1: Definitions, principles and rules**

**Coordination de l'isolement –
Partie 1: Définitions, principes et règles**





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IEC 60071-1

Edition 9.0 2019-08

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HORIZONTAL STANDARD
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**Insulation co-ordination –
Part 1: Definitions, principles and rules**

**Coordination de l'isolement –
Partie 1: Définitions, principes et règles**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

INSULATION CO-ORDINATION –

Part 1: Definitions, principles and rules

FOREWORD

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International Standard IEC 60071-1 has been prepared by IEC technical committee 99: Insulation co-ordination and system engineering of high voltage electrical power installations above 1,0 kV AC and 1,5 kV DC.

This ninth edition cancels and replaces the eighth edition published in 2006 and Amendment 1:2010. This edition constitutes a technical revision.

It has the status of a horizontal standard in accordance with IEC Guide 108.

The main changes from the previous edition are as follows:

- a) all references are updated to current IEC standards, and the bibliography is deleted;
- b) some definitions are clarified in order to avoid overlapping and ensure clear understanding;
- c) letter symbols are changed and corrected in order to keep the consistency with relevant IEC standards;
- d) some titles are changed to clarify understanding (see Clauses A.2, A.3 and Annex B).

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

CDV	Report on voting
99/199/CDV	99/227/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60071 series, published under the general title *Insulation co-ordination*, can be found on the IEC website.

The committee has decided that the contents of the base publication and its amendments will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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INSULATION CO-ORDINATION –

Part 1: Definitions, principles and rules

1 Scope

This part of IEC 60071 applies to three-phase AC systems having a highest voltage for equipment above 1 kV. It specifies the procedure for the selection of the rated withstand voltages for the phase-to-earth, phase-to-phase and longitudinal insulation of the equipment and the installations of these systems. It also gives the lists of the standard withstand voltages from which the rated withstand voltages are selected.

This document describes that the selected withstand voltages are associated with the highest voltage for equipment. This association is for insulation co-ordination purposes only. The requirements for human safety are not covered by this document.

Although the principles of this document also apply to transmission line insulation, the values of their withstand voltages can be different from the standard rated withstand voltages.

The apparatus committees are responsible for specifying the rated withstand voltages and the test procedures suitable for the relevant equipment taking into consideration the recommendations of this document.

NOTE In IEC 60071-2, all rules for insulation co-ordination given in this document are justified in detail, in particular the association of the standard rated withstand voltages with the highest voltage for equipment. When more than one set of standard rated withstand voltages is associated with the same highest voltage for equipment, guidance is provided for the selection of the most suitable set.

This horizontal standard is primarily intended for use by technical committees in the preparation of standards in accordance with the principles laid down in IEC Guide 108.

One of the responsibilities of a technical committee is, wherever applicable, to make use of horizontal standards in the preparation of its publications. The contents of this horizontal standard will not apply unless specifically referred to or included in the relevant publications.

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 60038, *IEC standard voltages*

IEC 60060-1, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60071-2, *Insulation co-ordination – Part 2: Application guidelines*

IEC 60099-4, *Surge arresters – Part 4: Metal-oxide surge arresters without gaps for a.c. systems*

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