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Fastställd	Utgåva	Sida	Ansvarig kommitté
2018-09-12	2	1 (1+158)	SEK TK 99

Isolationskoordination –
Del 2: Tillämpningsanvisningar

Insulation co-ordination –
Part 2: Application guidelines

Som svensk standard gäller europastandarden EN IEC 60071-2:2018. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60071-2:2018.

Nationellt förord

Europastandarden EN IEC 60071-2:2018

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 60071-2, Fourth edition, 2018 - Insulation co-ordination - Part 2: Application guidelines**

utarbetad inom International Electrotechnical Commission, IEC.

EN från CENELEC som är identiska med motsvarande IEC-standarder och som görs tillgängliga för nationalkommittéerna efter den 1 januari 2018 får en beteckning som inleds med EN IEC istället för som tidigare bara EN.

Tidigare fastställd svensk standard SS-EN 60071-2, utgåva 1, 1997, gäller ej fr o m 2021-04-20.

ICS 29.080.30

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 60071-2

May 2018

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Supersedes EN 60071-2:1997

English Version

Insulation co-ordination - Part 2: Application guidelines (IEC 60071-2:2018)

Coordination de l'isolement - Partie 2: Lignes directrices en matière d'application (IEC 60071-2:2018)

Isolationskoordination - Teil 2: Anwendungsrichtlinie (IEC 60071-2:2018)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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CENELEC

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN IEC 60071-2:2018 E

European foreword

The text of document 28/255/FDIS, future edition 4 of IEC 60071-2, prepared by IEC/TC 28 "Insulation co-ordination" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60071-2:2018.

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)	2019-01-20
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2021-04-20

This document supersedes EN 60071-2:1997.

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

Endorsement notice

The text of the International Standard IEC 60071-2:2018 was approved by CENELEC as a European Standard without any modification.

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

IEC 60099-4:2014	NOTE	Harmonized as EN 60099-2014 (not modified).
IEC 60099-5	NOTE	Harmonized as EN IEC 60099-5.
IEC 60099-8	NOTE	Harmonized as EN IEC 60099-8.
IEC 60507	NOTE	Harmonized as EN 60507.
IEC 62271-1:2017	NOTE	Harmonized as EN 62271-1:2017 (not modified).
IEC 62271-100:2008	NOTE	Harmonized as EN 62271-100:2009 (not modified).

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

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.

Publication	Year	Title	EN/HD	Year
IEC 60060-1	2010	High-voltage test techniques -- Part 1: General definitions and test requirements	EN 60060-1	2010
IEC 60071-1	2006	Insulation co-ordination -- Part 1: Definitions, principles and rules	EN 60071-1	2006
+ A1	2010		+ A1	2010
IEC 60505	2011	Evaluation and qualification of electrical insulation systems	EN 60505	2011
IEC/TS 60815-1	-	Selection and dimensioning of high-voltage insulators intended for use in polluted conditions - Part 1: Definitions, information and general principles	-	-
ISO 2533	1975	Standard Atmosphere	-	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

INSULATION CO-ORDINATION –

Part 2: Application guidelines

FOREWORD

International Standard IEC 60071-2 has been prepared by IEC technical committee 28: Insulation co-ordination.

This fourth edition cancels and replaces the third edition published in 1996. This edition constitutes a technical revision.

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

a) the annex on clearance in air to assure a specified impulse withstand voltage installation is deleted because the annex in IEC 60071-1 is overlapped;

b) 4.2 and 4.3 on surge arresters are updated;

c) 4.3.5 on very-fast-front overvoltages is revised. Annex J on insulation co-ordination for very-fast-front overvoltages in UHV substations is added;

d) Annex H on atmospheric correction – altitude correction is added.

e) Annex I on evaluation method of non-standard lightning overvoltage shape is added.

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

FDIS	Report on voting
28/255/FDIS	28/256/RVD

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

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

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INSULATION CO-ORDINATION –

Part 2: Application guidelines

1 Scope

This part of IEC 60071 constitutes application guidelines and deals with the selection of insulation levels of equipment or installations for three-phase electrical systems. Its aim is to give guidance for the determination of the rated withstand voltages for ranges I and II of IEC 60071-1 and to justify the association of these rated values with the standardized highest voltages for equipment.

This association is for insulation co-ordination purposes only. The requirements for human safety are not covered by this document.

This document covers three-phase systems with nominal voltages above 1 kV. The values derived or proposed herein are generally applicable only to such systems. However, the concepts presented are also valid for two-phase or single-phase systems.

This document covers phase-to-earth, phase-to-phase and longitudinal insulation.

This document is not intended to deal with routine tests. These are to be specified by the relevant product committees.

The content of this document strictly follows the flow chart of the insulation co-ordination process presented in Figure 1 of IEC 60071-1:2006. Clauses 4 to 7 correspond to the squares in this flow chart and give detailed information on the concepts governing the insulation co-ordination process which leads to the establishment of the required withstand levels.

This document emphasizes the necessity of considering, at the very beginning, all origins, all classes and all types of voltage stresses in service irrespective of the range of highest voltage for equipment. Only at the end of the process, when the selection of the standard withstand voltages takes place, does the principle of covering a particular service voltage stress by a standard withstand voltage apply. Also, at this final step, this document refers to the correlation made in IEC 60071-1 between the standard insulation levels and the highest voltage for equipment.

The annexes contain examples and detailed information which explain or support the concepts described in the main text, and the basic analytical techniques used.

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 60060-1:2010, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60071-1:2006, *Insulation co-ordination – Part 1: Definitions, principles and rules*
IEC 60071-1:2006/AMD1:2010

IEC 60505:2011, *Evaluation and qualification of electrical insulation systems*

IEC TS 60815-1, *Selection and dimensioning of high-voltage insulators intended for use in polluted conditions – Part 1: Definitions, information and general principles*

ISO 2533:1975, *Standard Atmosphere*