
Irish Standard
I.S. EN IEC 61952-1:2019

# Insulators for overhead lines - Composite line post insulators for AC systems with a nominal voltage greater than 1 000 V - Part 1: definitions, end fittings and designations

**I.S. EN IEC 61952-1:2019**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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## National Foreword

I.S. EN IEC 61952-1:2019 is the adopted Irish version of the European Document EN IEC 61952-1:2019, Insulators for overhead lines - Composite line post insulators for AC systems with a nominal voltage greater than 1 000 V - Part 1: definitions, end fittings and designations

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EUROPEAN STANDARD

NORME EUROPÉENNE

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# EN IEC 61952-1

June 2019

ICS 29.080.10; 29.240.20

English Version

# Insulators for overhead lines - Composite line post insulators for AC systems with a nominal voltage greater than 1 000 V - Part 1: definitions, end fittings and designations (IEC 61952-1:2019)

Isolateurs pour lignes aériennes - Isolateurs composites rigides à socle pour systèmes à courant alternatif de tension nominale supérieure à 1 000 V - Partie 1 : définitions, des armatures d'extrémité et désignations (IEC 61952-1:2019)

Isolatoren für Freileitungen - Verbund-Freileitungsstützer für Wechselstromsysteme mit einer Nennspannung über 1 000 V - Teil 1: Begriffe, Endarmaturen und Bezeichnungen (IEC 61952-1:2019)

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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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.


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**



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## European foreword

The text of document 36/435/FDIS, future edition 1 of IEC 61952-1, prepared by IEC/TC 36 "Insulators" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61952-1:2019.

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) 2020-02-09
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-05-09

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 61952-1:2019 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 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 60050-471 | - | International Electrotechnical Vocabulary - Part 471: Insulators | - | - |
| IEC 60071-1 | - | Insulation co-ordination - Part 1: Definitions, principles and rules | EN 60071-1 | - |
| IEC 61952 | 2008 | Insulators for overhead lines - Composite line post insulators for A.C. systems with a nominal voltage greater than 1 000 V - Definitions, test methods and acceptance criteria | EN 61952 | 2008 |

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# INTERNATIONAL STANDARD

## Insulators for overhead lines – Composite line post insulators for AC systems with a nominal voltage greater than 1 000 V – Part 1: definitions, end fittings and designations

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# INTERNATIONAL STANDARD

## Insulators for overhead lines – Composite line post insulators for AC systems with a nominal voltage greater than 1 000 V – Part 1: definitions, end fittings and designations

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# INSULATORS FOR OVERHEAD LINES – COMPOSITE LINE POST INSULATORS FOR AC SYSTEMS WITH A NOMINAL VOLTAGE GREATER THAN 1 000 V –

## Part 1: Definitions, end fittings and designations

## FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61952-1 has been prepared by IEC technical committee 36: Insulators.

The text of this standard is based on the following documents:

| FDIS | Report on voting |
|---|---|
| 36/435/FDIS | 36/441/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.

A list of all parts in the IEC 61952 series, published under the general title *Insulators for overhead lines – Composite line post insulators for AC systems with a nominal voltage greater than 1 000 V*, can be found on the IEC website.

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.

A bilingual version of this publication may be issued at a later date.

# INTRODUCTION

This part of IEC 61952 is intended to give the main mechanical and dimensional characteristics of composite line post insulators and their fittings in order to ensure their interchangeability. Since line post insulators are usually subjected to combined loads (for example vertical due to the conductor plus compressive and lateral due to the pole being at a line corner or turn), only the MDCL is given as a specified characteristic for the mechanical strength of the insulator.

Furthermore, composite line post insulators are often used in a braced configuration for higher voltages and mechanical loads. In these configurations the overall strength depends on the components and geometry of the whole assembly – including notably the buckling strength of the line post component which depends more on the core dimensions and flexibility than on ultimate flexural strength.

In order to address the matter of the strength of composite line post insulators under combined or complex loads some information is already given in Annex B of IEC 61952:2008 and by the IEEE [2][1]. It is intended to expand on this information in a second part of IEC 61952 which will give application guidelines and examples for common line post usage scenarios.

1 Numbers in square brackets refer to the bibliography.

# INSULATORS FOR OVERHEAD LINES – COMPOSITE LINE POST INSULATORS FOR AC SYSTEMS WITH A NOMINAL VOLTAGE GREATER THAN 1 000 V –

## Part 1: Definitions, end fittings and designations

## 1 Scope

This part of IEC 61952 is applicable to composite line post insulators for AC overhead lines with a nominal voltage greater than 1 000 V and a frequency not greater than 100 Hz.

It also applies to line post insulators of similar design used in substations or on electric traction lines.

This document applies to line post insulators of composite type, generally with metallic couplings, with and without a base plate. It also applies to such insulators when used in complex structures. It does not apply to hollow insulators adapted for use as line post insulators.

The object of this document is to specify the main dimensions of the couplings to be used on the composite line post insulators in order to permit the assembly of insulators or fittings supplied by different manufacturers and to allow, whenever practical, interchangeability with existing installations.

It also specifies a standard designation system for composite line post insulators.

## 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 60050-471, *International Electrotechnical Vocabulary – Part 471: Insulators*

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

IEC 61952:2008, *Insulators for overhead lines – Composite line post insulators for A.C. systems with a nominal voltage greater than 1 000 V – Definitions, test methods and acceptance criteria*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-471 and IEC 61952 and the following apply.

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

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