



NSAI
Standards

Irish Standard
I.S. EN IEC 60305:2021

Insulators for overhead lines with a nominal voltage above 1000 V - Ceramic or glass insulator units for AC systems - Characteristics of insulator units of the cap and pin type

I.S. EN IEC 60305:2021

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN IEC 60305:2021 is the adopted Irish version of the European Document EN IEC 60305:2021, Insulators for overhead lines with a nominal voltage above 1000 V - Ceramic or glass insulator units for AC systems - Characteristics of insulator units of the cap and pin type

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EUROPEAN STANDARD

EN IEC 60305

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2021

ICS 29.080.10; 29.240.20

Supersedes EN 60305:1996 and all of its amendments
and corrigenda (if any)

English Version

**Insulators for overhead lines with a nominal voltage above
1 000 V - Ceramic or glass insulator units for AC systems -
Characteristics of insulator units of the cap and pin type
(IEC 60305:2021)**

Isolateurs pour lignes aériennes de tension nominale
supérieure à 1 000 V - Éléments d'isolateurs en céramique
ou en verre pour réseaux à tension alternative -
Caractéristiques des éléments d'isolateurs du type capot et
tige
(IEC 60305:2021)

Isolatoren für Freileitungen mit einer Nennspannung über
1000 V – Keramik- oder Glas-Kettenisolatoren für
Wechselstromsysteme – Kenngrößen von Kettenisolatoren
vom Typ Kappenisolator
(IEC 60305:2021)

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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

EN IEC 60305:2021 (E)

European foreword

The text of document 36/499/FDIS, future edition 5 of IEC 60305, prepared by IEC/TC 36 "Insulators" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60305:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2021-11-15 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2024-02-15 document have to be withdrawn

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

IEC 60120:2020	NOTE	Harmonized as EN IEC 60120:2020 (not modified)
IEC 60471:2020	NOTE	Harmonized as EN IEC 60471:2020 (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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60383-1	-	Insulators for overhead lines with a nominal voltage above 1000 V - Part 1: Ceramic or glass insulator units for a.c. systems - Definitions, test methods and acceptance criteria	EN 60383-1	-

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IEC 60305

Edition 5.0 2021-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Insulators for overhead lines with a nominal voltage above 1 000 V – Ceramic or glass insulator units for AC systems – Characteristics of insulator units of the cap and pin type

Isolateurs pour lignes aériennes de tension nominale supérieure a 1 000 V – Éléments d’isolateurs en céramique ou en verre pour réseaux à tension alternative – Caractéristiques des éléments d’isolateurs du type capot et tige





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IEC 60305

Edition 5.0 2021-01

INTERNATIONAL STANDARD

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

INSULATORS FOR OVERHEAD LINES WITH A NOMINAL VOLTAGE ABOVE 1 000 V – CERAMIC OR GLASS INSULATOR UNITS FOR AC SYSTEMS – CHARACTERISTICS OF INSULATOR UNITS OF THE CAP AND PIN TYPE

FOREWORD

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International Standard IEC 60305 has been prepared by IEC technical committee 36: Insulators.

This fifth edition cancels and replaces the fourth edition published in 1995. This edition constitutes a technical revision.

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

- a) wording in Scope changed from "it is recommended" to "it is applicable";
- b) new normative references added;
- c) electromechanical or mechanical failing load in Clause 4 specified;
- d) new figures added showing profiles;
- e) Tables 1, 2, 3, 4 and 5 expanded to include more specified values.

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

FDIS	Report on voting
36/499/FDIS	36/501/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.

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.

INSULATORS FOR OVERHEAD LINES WITH A NOMINAL VOLTAGE ABOVE 1 000 V – CERAMIC OR GLASS INSULATOR UNITS FOR AC SYSTEMS – CHARACTERISTICS OF INSULATOR UNITS OF THE CAP AND PIN TYPE

1 Scope

This International Standard applies to string insulator units of the cap and pin type with insulating parts of ceramic material or glass, intended 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 insulators of similar design used in substations.

This document applies to string insulator units of the cap and pin type either with ball and socket couplings or with clevis and tongue couplings.

This document applies to string insulator units for use on overhead lines in clean areas and polluted areas. For use in areas characterized by very heavy pollution levels and for other particular or extreme environmental conditions, it may be necessary for certain dimensions to be changed and insulator units having different creepage distances, spacing and forms may be preferred (for example, flat profile, hemispherical etc.). Insulators for use on DC systems may also need different dimensions. In any case, it is applicable that the standardized mechanical characteristics of this document and coupling sizes are retained.

The object of this document is to prescribe specified values for the mechanical characteristics and for the main dimensions of string insulator units of the cap and pin type.

The power frequency, lightning impulse and puncture withstand voltages of string insulator units are not specified in this document. IEC 60383-1 gives the electrical characteristics which define string insulator units; their values are agreed between purchaser and manufacturer.

Ball and socket couplings are covered by IEC 60120, clevis and tongue couplings by IEC 60471.

NOTE For the definition of site pollution severity see IEC TS 60815-1.

2 Normative references

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IEC 60383-1, *Insulators for overhead lines with a nominal voltage above 1000 V – Part 1: Ceramic or glass insulator units for AC systems – Definitions, test methods and acceptance criteria*

3 Terms and definitions

No terms and definitions are listed in this document.

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