

STN	Izolátory pre vonkajšie elektrické vedenia s menovitým napätím nad 1 000 V Časť 1: Keramické alebo sklenené izolátory pre siete so striedavým napätím Definície, skúšobné metódy a preberacie kritériá	STN EN IEC 60383-1 34 8052
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Insulators for overhead lines with a nominal voltage above 1 000 V - Part 1: Ceramic or glass insulator units for a.c. systems - Definitions, test methods and acceptance criteria

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. 10/23

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EN IEC 60383-1:2023 (E)**European foreword**

The text of document 36/564/FDIS, future edition 5 of IEC 60383-1, prepared by IEC/TC 36 "Insulators" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60383-1:2023.

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) 2024-05-11
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2026-08-11

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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.cencenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60060-1	-	High-voltage test techniques - Part 1: General definitions and test requirements	EN 60060-1	-
IEC 60120	-	Ball and socket couplings of string insulator units - Dimensions	EN IEC 60120	-
IEC 60305	-	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	EN IEC 60305	-
IEC 60372	-	Locking devices for ball and socket couplings of string insulator units - Dimensions and tests	EN IEC 60372	-
IEC 60433	-	Insulators for overhead lines with a nominal voltage above 1000 V - Ceramic insulators for AC systems - Characteristics of insulator units of the long rod type	EN IEC 60433	-
IEC 60437	-	Radio interference test on high-voltage insulators	EN 60437	-
IEC 60471	-	Clevis and tongue couplings of string insulator units - Dimensions	EN IEC 60471	-
IEC 61211	-	Insulators of ceramic material or glass for overhead lines with a nominal voltage greater than 1 000 V - Impulse puncture testing in air	EN 61211	-
ISO 1459	1973	Metallic coatings - Protection against corrosion by hot dip galvanizing - Guiding principles	-	-
ISO 1460	-	Metallic coatings - Hot dip galvanized coatings on ferrous metals - Determination of the mass per unit area - Gravimetric method	EN ISO 1460	-

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ISO 1461	-	Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test Methods	EN ISO 1461	-
ISO 1463	-	Metal and oxide coatings - Measurement of coating thickness - Microscopical method	EN ISO 1463	-
ISO 2064	-	Metallic and other inorganic coatings - Definitions and conventions concerning the measurement of thickness	EN ISO 2064	-
ISO 2178	2016	Non-magnetic coatings on magnetic substrates - Measurement of coating thickness - Magnetic method	EN ISO 2178	2016



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INTERNATIONAL STANDARD

NORME INTERNATIONALE



**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**

**Isolateurs pour lignes aériennes de tension nominale supérieure à 1 000 V –
Partie 1: Éléments d’isolateurs en matière céramique ou en verre pour systèmes
à courant alternatif – Définitions, méthodes d’essai et critères d’acceptation**



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IEC Secretariat
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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Edition 5.0 2023-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE



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Part 1: Ceramic or glass insulator units for a.c. systems – Definitions, test
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à courant alternatif – Définitions, méthodes d’essai et critères d’acceptation**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**INSULATORS FOR OVERHEAD LINES
WITH A NOMINAL VOLTAGE ABOVE 1 000 V –****Part 1: Ceramic or glass insulator units for AC systems –
Definitions, test methods and acceptance criteria**

FOREWORD

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IEC 60383 has been prepared by IEC technical committee 36: Insulators. It is an International Standard.

This fifth edition cancels and replaces the fourth edition published in 1993. This edition constitutes a technical revision.

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

- a) The complete document has been revised and updated. The layout of the document has been changed in order to increase readability;
- b) RIV test has been added (Clause 14);
- c) Impulse puncture test in air has been added (15.2);
- d) Residual strength test has been added (Clause 21);

- e) Zinc sleeve test has been added (Clause 28);
- f) Impact test has been added (Clause 30);
- g) Annex C, coatings on ceramic and glass insulators has been added;
- h) Annex D, impact test has been added.

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

Draft	Report on voting
36/564/FDIS	36/571/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 60383 series, published under the general title *Insulators for overhead lines with a nominal voltage above 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 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.

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INTRODUCTION

This part of IEC 60383 deals with four different types of insulators:

- Pin insulators
- Line post insulators
- String insulator units
- Insulators for overhead electric traction lines

Certain clauses of this document contain general requirements and other clauses contain specific tests relevant to each of the above-mentioned insulators.

INSULATORS FOR OVERHEAD LINES WITH A NOMINAL VOLTAGE ABOVE 1 000 V –

Part 1: Ceramic or glass insulator units for AC systems – Definitions, test methods and acceptance criteria

1 Scope

This part of IEC 60383 applies to insulators of ceramic material or glass for use on AC overhead power lines and overhead traction lines with a nominal voltage greater than 1 000 V and a frequency not greater than 100 Hz. It also applies to insulators for use on DC overhead electric traction lines.

This document applies to string insulator units, rigid overhead line insulators and to insulators of similar design when used in substations.

It does not apply to insulators forming parts of electrical apparatus or to parts used in their construction or to post insulators which are covered by IEC 60168, *Tests on indoor and outdoor post insulators of ceramic material or glass for systems with nominal voltages greater than 1 000 V*.

Tests on insulator strings and insulator sets (for example, wet switching impulse voltage) are dealt with in IEC 60383-2.

The object of this document is:

- to define the terms used
- to define insulator characteristics and to prescribe the conditions under which the specified values of these characteristics shall be verified
- to prescribe test methods
- to prescribe acceptance criteria.

This document does not include requirements dealing with the choice of insulators for specific operating conditions.

Specific requirements on the use of coatings on ceramic or glass insulators are described in the informative Annex C.

Numerical values for insulator characteristics are specified in IEC 60305, IEC 60433 and IEC 60720.

NOTE A guide for the choice of insulators under polluted conditions has been published, see IEC 60815-1 and -2.

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

IEC 60120, *Ball and socket couplings of string insulator units – Dimensions*

IEC 60305, *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*

IEC 60372, *Locking devices for ball and socket couplings of string insulator units – Dimensions and tests*

IEC 60433, *Insulators for overhead lines with a nominal voltage above 1000 V – Ceramic insulators for AC systems – Characteristics of insulator units of the long rod type*

IEC 60437, *Radio interference test on high-voltage insulators*

IEC 60471, *Clevis and tongue couplings of string insulator units – Dimensions*

IEC 61211, *Insulators of ceramic material or glass for overhead lines with a nominal voltage greater than 1 000 V – Impulse puncture testing in air*

ISO 1459:1973, *Metallic coatings – Protection against corrosion by hot dip galvanizing – Guiding principles*

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