



PRE-RELEASE VERSION (FDIS)

**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**

INTERNATIONAL
ELECTROTECHNICAL
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TITLE:

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

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CONTENTS

FOREWORD	3
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Mechanical characteristics, dimensions and types	6
5 Designation and marking with respect to shed profile	6
6 Tolerances	8
Bibliography	14
Figure 1 – Typical "standard" profile	7
Figure 2 – Typical "anti-fog" profile "P"	7
Figure 3 – Typical "aerodynamic" profile "D"	7
Figure 4 – Typical "two-alternating" profile "V"	7
Figure 5 – Typical "three-alternating" profile "T"	8
Figure 6 – String insulator unit of standard and anti-fog profile with ball and socket coupling	8
Figure 7 – String insulator unit of standard and anti-fog profile with clevis and tongue coupling	10
Figure 8 – String insulator unit of aerodynamic profile with ball and socket coupling	11
Figure 9 – String insulator unit of two-alternating profile with ball and socket coupling	11
Figure 10 – String insulator unit of three-alternating profile with ball and socket coupling	12
Table 1 – Specified values of mechanical and dimensional characteristics for string insulator units of standard and anti-fog profile with ball and socket couplings	9
Table 2 – Specified values of mechanical and dimensional characteristics for string insulator units of standard and anti-fog profile with clevis and tongue couplings	10
Table 3 – Specified values of mechanical and dimensional characteristics for string insulator units of aerodynamic profile with ball and socket couplings	11
Table 4 – Specified values of mechanical and dimensional characteristics for string insulator units of two-alternating profile with ball and socket couplings	12
Table 5 – Specified values of mechanical and dimensional characteristics for string insulator units of three-alternating profile with ball and socket couplings	13

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

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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/XX/FDIS	36/XX/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

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 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*