SLOVENSKI STANDARD
SIST EN 61466-1:1997

01-november-1997

Composite string insulator units for overhead lines with nominal voltage greater than 1 kV - Part 1: Standard strenght classes and fittings (IEC 61644-1:1997)

Composite string insulator units for overhead lines with a nominal voltage greater than 1 kV -- Part 1: Standard strength classes and end fittings

Verbund-Kettenisolatoren für Freileitungen mit einer Nennspannung über 1kV -- Teil 1: Genormte Festigkeitsklassen und Endarmaturen

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Isolateurs composites pour lignes aériennes de tension nominale supérieure à 1 kV -- Partie 1: Classes mécaniques et accrochages d'extrémité standards

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Ta slovenski standard je istoveten z: **EN 61466-1:1997**

ICS:

29.080.10	Izolatorji	Insulators
29.240.20	Daljnovodi	Power transmission and distribution lines

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EUROPEAN STANDARD

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EUROPÄISCHE NORM

EN 61466-1

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ICS 29.080.10

Descriptors: Insulators, overhead lines, standard strength, end fittings

English version

Composite string insulator units for overhead lines with a nominal voltage greater than 1 kV Part 1: Standard strength classes and end fittings (IEC 61466-1:1997)

Isolateurs composites pour lignes aériennes de tension nominale supérieure à 1 kV Partie 1: Classes mécaniques et accrochages d'extrémité standards (CEI 61466-1:1997)

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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 Central Secretariat 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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

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SIST EN 61466-1:1997

Foreword

The text of document 36B/158/FDIS, future edition 1 of IEC 61466-1, prepared by SC 36B, Insulators for overhead lines, of IEC TC 36, Insulators, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61466-1 on 1997-03-11.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1997-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1997-12-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annexes A, B, C, D and ZA are normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61466-1:1997 was approved by CENELEC as a European Standard without any modification.

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 120	1984	Dimensions of ball and socket couplings of string insulator units	HD 474 S1	1986
IEC 471	1977	Dimensions of clevis and tongue couplings of string insulator units	-	-
IEC 1109	1992	Composite insulators for a.c. overhead lines with a nominal voltage greater than 1 kV Definitions, test methods and acceptance criteria	-	-

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CEI
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Partie 1:
Classes mécaniques et accrochages d'extrémité standards

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Part 1:
Standard strength classes and end fittings

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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COMPOSITE STRING INSULATOR UNITS FOR OVERHEAD LINES WITH A NOMINAL VOLTAGE GREATER THAN 1 000 V –

Part 1: Standard strength classes and end fittings

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.

3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.

4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.

5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.

6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

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International Standard IEC 61466-1 has been prepared by subcommittee 36B: Insulators for overhead lines, of IEC technical committee 36: Insulators.

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

FDIS	Report on voting
36B/158/FDIS	36B/164/RVD

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

Annexes A, B, C and D form an integral part of this standard.

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COMPOSITE STRING INSULATOR UNITS FOR OVERHEAD LINES WITH A NOMINAL VOLTAGE GREATER THAN 1 000 V –

Part 1: Standard strength classes and end fittings

1 Scope

This part of IEC 61466 is applicable to composite string insulator units for a.c. 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 or on electric traction lines.

This standard applies to string insulator units of composite type with ball, socket, tongue, clevis, Y-clevis or eye couplings, or a combination thereof.

The object of this standard is to prescribe specified values for the mechanical characteristics of the composite string insulator units and define the main dimensions of the couplings to be used on the composite string insulator units 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 defines a standard designation system for composite string insulator units.

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NOTES

1 General definitions and methods of testing are given in IEC 1109.

2 Only the dimensions necessary for assembly of the couplings are dealt with in this International Standard. Properties of material and working loads are not specified. The co-ordination of dimensions of the end-fittings with the strength classes is specified in Clause 7.

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2 Normative references

The following normative documents contain provisions which, through reference in the text, constitute provisions of this part of IEC 61466. At the time of publication, the editions indicated were valid. All normative documents are subjected to revision, and parties to agreements based on this part of IEC 61466 are encouraged to investigate the possibility of applying the most recent edition of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 120: 1984, *Dimensions of ball and socket couplings of string insulator units*

IEC 471: 1977, *Dimensions of clevis and tongue couplings of string insulator units*

IEC 1109: 1992, *Composite insulators for a.c. overhead lines with a nominal voltage greater than 1 000 V – Definitions, test methods and acceptance criteria*

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3 Mechanical and dimensional characteristics

Composite string insulator units are standardized by the following specified characteristics:

- specified mechanical load (SML);
- standard couplings.

All dimensions are expressed in millimetres.

The dimensions apply to the finished product after any surface treatment.

4 Plan of the standard

This standard includes nine standard SML classes designated for use together with 10 different series of couplings as follows.

– Two different standard series of ball couplings, one according to IEC 120 and one, type N, as shown in annex A of this standard.

– Two different standard series of socket couplings, one according to IEC 120 and one, type N, as shown in annex A of this standard.

– Two different standard series of tongue couplings, one, type L, according to IEC 471 and one, type N, as shown in annex B of this standard.

– Three different standard series of clevis couplings, one, Type L, according to IEC 471, one, type N, as shown in annex B of this standard and one, type Y, as shown in annex C of this standard.

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– One type of standard series of eye couplings as shown in annex D of this standard.

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5 Insulator designation

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Insulators are designated in table 1 by letter CS followed by a number indicating the specified mechanical load (SML) in kilonewtons. The letter B, S, T, C, Y or E or a combination thereof which follows specifies a ball, socket, tongue, clevis, Y-clevis or eye coupling, see figure 1. The following figures specify the size of the coupling. When a combination of couplings are used, the first letter shall always express the coupling in the upper end of the insulator. The upper end of the insulator is defined in relation to the slope of the sheds. In the case of symmetrical profile of the sheds any order of the letters is acceptable.

As examples, possible designations could be:

CS 120 S16 B16 indicates a composite insulator having a SML equal to 120 kN, a socket coupling according to IEC 120, size 16, at the upper end and a ball coupling according to IEC 120, size 16, at the other end.

CS 120 C19N T19N indicates a composite insulator having a SML equal to 120 kN, a clevis coupling according to annex B, size 19N, at the upper end and a tongue coupling according to annex B, size 19N, at the other end.

NOTE – Fittings of the same type conforming to different standards (e.g. IEC 120 and annex A of this standard) should be avoided on the same insulator.