AS 61466.1:2020

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Composite string insulator units for overhead lines with a nominal voltage greater than 1 000 V

Part 1: Standard strength and end fittings (IEC 61466-1:2016 (ED 2.0) MOD)

AS 61466.1:2020

This Australian Standard ® was prepared by EL-010, Overhead Lines. It was approved on behalf of the Council of Standards Australia on 18 November 2020.

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The following are represented on Committee EL-010:

Aerial Application Association of Australia
Australian Industry Group
Civil Aviation Safety Authority
Communications, Electrical and Plumbing Union — Electrical Division
Department of Regional NSW
Electrical Regulatory Authorities Council
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Composite string insulator units for overhead lines with a nominal voltage greater than 1 000 V

Part 1: Standard strength and end fittings (IEC 61466-1:2016 (ED 2.0) MOD)

First published as AS/NZS 4435.2:1999.
Revised and redesignated as AS 61466.1:2020.

Preface

This Standard was prepared by the Standards Australia Committee EL-010, Overhead Lines to supersede AS/NZS 4435.2—1999, *Insulators — Composite for overhead power lines — Voltages greater than 1 000 V a.c. — Part 2: Standard strength classes and end fittings for string insulator units.*

The objective of this document is to specify 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. This document also defines a standard designation system for composite string insulator units.

This document applies to —

(a) 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;

(b) insulators of similar design used in substations or on electric traction lines;

(c) string insulator units of composite type with ball, socket, tongue, clevis, Y-clevis or eye couplings, or a combination thereof; and

(d) dimensions necessary for assembly of the couplings.

This document does not specify properties of material and working loads.

This document is an adoption with national modifications, and has been reproduced from, IEC 61466-1:2016, *Composite string insulator units for overhead lines with a nominal voltage greater than 1 000 V — Part 1: Standard strength classes and end fittings.*

The modifications are additional requirements and are set out in Appendix ZZ, which has been added at the end of the source text.

Appendix ZZ lists the variations to IEC 61466-1:2016 for the application of this document in Australia.

As this document has been reproduced from an International Standard, the following applies:

(a) In the source text "this part of IEC 61466" should read "this document".

(b) A full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms "normative" and "informative" are used in Standards to define the application of the appendices or annexes to which they apply. A "normative" appendix or annex is an integral part of a Standard, whereas an "informative" appendix or annex is only for information and guidance.

NOTES

CONTENTS

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

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International Standard IEC 61466-1 has been prepared by IEC technical committee 36: Insulators.

This second edition cancels and replaces the first edition published in 1997. This edition constitutes a technical revision.

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

a) Addition of strength classes reflecting UHV practice;
b) Inclusion of Corrigendum 1:2008 for Y fitting hole dimensions.

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

FDIS	Report on voting
36/378/FDIS	36/381/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.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 61466 series, published under the general title *Composite string insulator units for overhead lines 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 publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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.

NOTE 1 General definitions and methods of testing are given in IEC 61109.

NOTE 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 coordination of dimensions of the end-fittings with the strength classes is specified in Clause 3.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60120:1984, *Dimensions of ball and socket couplings of string insulator units*

IEC 60471:1977, *Dimensions of clevis and tongue couplings of string insulator units*

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.