

AC suspension insulators



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Preface

This is the second edition of CSA C411.1, *AC suspension insulators*. It supersedes the previous edition, published in 1989. The Standard has been updated to reflect current industry practice. In addition, references to international standards have been expanded.

This Standard is one of the C411 series of Standards covering insulators. Other Standards in the series are

- (a) CSA C411.4, *Composite suspension insulators for overhead lines > 75 kV*;
- (b) CSA C411.5, *Dead-end/suspension composite insulators for overhead lines ≤ 75 kV*;
- (c) CSA C411.6, *Line post composite insulators for overhead distribution lines*; and
- (d) CSA C411.7, *Composite insulators for guy wires*.

This Standard was prepared by the Technical Committee on Insulators, under the jurisdiction of the Strategic Steering Committee on Power Engineering (SCOPE), and has been formally approved by the Technical Committee. It will be submitted to the Standards Council of Canada for approval as a National Standard of Canada.

March 2010

Notes:

- (1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- (2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
- (3) *This publication was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as “substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity”. It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this publication.*
- (4) *CSA Standards are subject to periodic review, and suggestions for their improvement will be referred to the appropriate committee.*
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 - (b) *provide an explanation of circumstances surrounding the actual field condition; and*
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Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization and are published in CSA’s periodical Info Update, which is available on the CSA Web site at www.csa.ca.

C411.1-10

AC suspension insulators

1 Scope

1.1

This Standard applies to wet-process porcelain and toughened glass suspension-type insulators used on ac overhead power lines with a nominal voltage greater than 1000 V and a frequency not greater than 100 Hz.

This Standard applies to single insulator units only and does not apply to long rod insulators.

1.2

This Standard specifies provisions for

- (a) the mechanical, electrical, and dimensional characteristics of insulators and the conditions under which the specified values of these characteristics are verified; and
- (b) test methods and acceptance criteria.

1.3

In CSA Standards, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; “should” is used to express a recommendation or that which is advised but not required; “may” is used to express an option or that which is permissible within the limits of the standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (nonmandatory) to define their application.

2 Reference publications

This Standard refers to the following publications, and where such reference is made, it shall be to the edition listed below, including all amendments published thereto.

CSA (Canadian Standards Association)

C83-96 (2005)

Communication and power line hardware

C411.4 (under development)

Composite suspension insulators for overhead lines > 75 kV

C411.5 (under development)

Dead-end/suspension composite insulators for overhead lines ≤ 75 kV

C411.6 (under development)

Line post composite insulators for overhead distribution lines

C411.7 (under development)

Composite insulators for guy wires