C411.5-16

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

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Preface

This is the second edition of CSA C411.5, *Dead-end/suspension composite insulators for overhead lines* ≤ 75 kV. It supersedes the previous edition published in 2010.

This Standard is based on the requirements of Canadian Electricity Association (CEA) LWIWG-01 (96), *Dead-End/Suspension Composite Insulator for Overhead Distribution Lines* (used with permission from CEA).

This Standard was prepared by the Technical Committee on Insulators, under the jurisdiction of the Strategic Steering Committee on Power Engineering and Electromagnetic Compatibility, and has been formally approved by the Technical Committee.

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 Standard 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 Standard.*

4) *To submit a request for interpretation of this Standard, please send the following information to inquiries@csagroup.org and include "Request for interpretation" in the subject line:*

a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*

b) *provide an explanation of circumstances surrounding the actual field condition; and*

c) *where possible, phrase the request in such a way that a specific "yes" or "no" answer will address the issue.*

Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization *and are available on the* Current Standards Activities *page at standardsactivities.csa.ca.*

5) *This Standard is subject to review five years from the date of publication. Suggestions for its improvement will be referred to the appropriate committee. To submit a proposal for change, please send the following information to inquiries@csagroup.org and include "Proposal for change" in the subject line:*

a) *Standard designation (number);*

b) *relevant clause, table, and/or figure number;*

c) *wording of the proposed change; and*

d) *rationale for the change.*

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

1 Scope

1.1

This Standard covers the requirements for dead-end/suspension composite insulators used on overhead distribution lines operating at nominal voltages up to and including 75 kV. Dead-end insulators support the line conductor horizontally. Suspension insulators support the line conductor vertically. Both are subjected to tensile and torsional loads.

These composite insulators are intended to operate in a service environment within a temperature range of –50 to 50 °C.

The main objective of this Standard is to define terms, prescribe test methods, and recommend acceptance or failure criteria. Clauses 4 to 8 specify the material, product qualification, construction and test requirements applicable to these insulators. Annexes D, E, and F provide examples of design, type, and sample/routine test reports.

1.2

This Standard deals with composite insulators having a core with metal fittings and a housing and sheds. The core has resin-impregnated glass fibres. The housing and sheds consist of elastomers (e.g., silicone, ethylene propylene). The metal fittings are aluminum, steel, or iron.

1.3

In this Standard, “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; and “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 (non-mandatory) to define their application.

