

Insulation coordination



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Preface

This is the second edition of CSA C22.2 No. 0.2, *Insulation coordination*, one of a series of Standards issued by CSA Group under Part II of the *Canadian Electrical Code*. It supersedes the previous edition published in 1993.

The requirements of this Standard are intended to harmonize with the IEC 60664 series, *Insulation coordination for equipment within low-voltage systems*.

The IEC database provides clearance values, which can be used for product evaluation, that were developed based on particular overvoltages and inhomogenous fields. The object of this Standard is to guide Technical Committees in the development of alternative requirements and to establish a common basis to address clearance and creepage distances when the concept of insulation coordination is employed. This Standard provides information necessary to give guidance to Technical Committees when specifying clearances in air, creepage distances, and solid insulation for equipment in which the concept of insulation coordination is used.

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

This Standard was prepared by the Subcommittee on Insulation Coordination, under the jurisdiction of the Technical Committee on General Requirements, CE Code, Part II and the Strategic Steering Committee on Requirements for Electrical Safety, and has been formally approved by the Technical Committee.

This Standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

Interpretations: The Strategic Steering Committee on Requirements for Electrical Safety has provided the following direction for the interpretation of standards under its jurisdiction: “The literal text shall be used in judging compliance of products with the safety requirements of this Standard. When the literal text cannot be applied to the product, such as for new materials or construction, and when a relevant CSA committee interpretation has not already been published, CSA Group’s procedures for interpretation shall be followed to determine the intended safety principle.”

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 standards@csagroup.org and include “Request for interpretation” in the subject line:*
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 - 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.

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 - b) *relevant clause, table, and/or figure number;*
 - c) *wording of the proposed change; and*
 - d) *rationale for the change.*

CSA C22.2 No. 0.2:16

Insulation coordination

1 Scope

1.1

This Standard uses principles of insulation coordination in specifying through-air and over-surface spacing requirements for electrical equipment used in accordance with the Rules of the *Canadian Electrical Code, Part I*.

1.2

The complete principles of insulation coordination involve consideration of a combination of clearances, creepage distances, and properties of solid insulation used to constitute an insulation system. This Standard includes considerations for clearances and creepage distances.

Note: *The empirical data gathered thus far have been used to develop requirements for clearances and creepage distances as presented in this Standard. Data required to develop an evaluation procedure for solid insulation are still being compiled. When available, this evaluation procedure will be added to this Standard. It is anticipated that the evaluation procedure will not affect the requirements for clearances and creepage distances.*

1.3

These requirements are intended to be used only where specifically referenced by other Standards of the *Canadian Electrical Code, Part II*.

Note: *These requirements may be used as an alternative to required spacings when referenced by an end-product standard.*

1.4

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.