

## Heater elements



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# *National Standard of Canada*

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# Preface

This is the third edition of CSA C22.2 No. 72, *Heater elements*, one of a series of Standards issued by the Canadian Standards Association under the *Canadian Electrical Code, Part II*. It supersedes the previous editions published in 1984 and 1942.

For general information on the Standards of the *Canadian Electrical Code, Part II*, see the preface to CAN/CSA-C22.2 No. 0.

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 Heater Elements, under the jurisdiction of the Technical Committee on Consumer and Commercial Products and the Strategic Steering Committee on Requirements for Electrical Safety, and has been formally approved by the Technical Committee.

**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 committee interpretation has not already been published, CSA’s procedures for interpretation shall be followed to determine the intended safety principle.”

February 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.
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  - (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) be phrased where possible to permit a specific “yes” or “no” answer.

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](http://www.csa.ca).

# C22.2 No. 72-10

## Heater elements

### 1 Scope

#### 1.1

This Standard applies to

- (a) heater elements for use in equipment that is intended to be connected to a supply of nominal system voltage of 600 V or less; and
- (b) those heater elements that are installed in accordance with the Rules of the *Canadian Electrical Code, Part I*.

#### 1.2

This Standard applies to the following types of heater elements:

- (a) open wire (including wire, ribbon, and expanded metal);
- (b) metal sheathed (including removable-type range surface and grounded plug-in type);
- (c) variable resistance/temperature (VR/T); and
- (d) special (e.g., quartz tube, woven mat, parallel circuit mat, rope, cartridge, and strip).

#### 1.3

This Standard does not apply to the following:

- (a) heating cables;
- (b) electric duct heaters; and
- (c) uninsulated heater elements used in bare element water heaters.

#### 1.4

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; 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 (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)

C22.1-09

*Canadian Electrical Code, Part I*

CAN/CSA-C22.2 No. 0-M91 (R2006)

*General Requirements — Canadian Electrical Code, Part II*