CSA GROUP™

CSA C22.2 No. 130:16

National Standard of Canada

(reaffirmed 2021)

Requirements for electrical resistance trace heating and heating device sets

Standards Council of Canada
Conseil canadien des normes

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C22.2 No. 130:16, Requirements for electrical resistance trace heating and heating device sets

Errata — June 2020	**Revision symbol (in margin)**
Clause Figures 15, 16, 17, 18, and 19	Δ

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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 to judge its suitability for their particular purpose.

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Contents

① *Preface*

This is the fourth edition of CSA C22.2 No. 130, *Requirements for electrical resistance trace heating and heating device sets*. It supersedes the previous edition published in 2003 under the title *Requirements for electrical resistance heating cable and heating device sets,* two previous standards, CAN/CSA-C22.2 No. 130.1,*Heat tracing cable systems for use in industrial locations,* published in 1990, and C22.2 No. 130.2,*Heat cable systems for use in other than industrial locations,* published in 1993, and previous editions published in 1985 and 1974 under the title *Heating cables and heating cable sets*. This Standard is issued by the CSA Group under Part II of the *Canadian Electrical Code*.

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

This fourth edition modifies the test method for the verification of sheath temperature (including the addition of an alternate test for sheath temperature test method, heat loss calculations, and an update of Annex C for hazardous locations). Testing for surface heaters used for space heating is aligned with the changes made in the *Canadian Electrical Code* (2015), and the reference standards have also been updated.

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

This Standard was prepared by the Integrated Committee on Trace Heating, under the jurisdiction of the Technical Committee on Wiring Products 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 committee interpretation has not already been published, CSA'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.*
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   a) *provide an explanation of circumstances surrounding the actual field condition; and*
   b) *where possible, phrase the request in such a way that a specific "yes" or "no" answer will address the issue.*

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CSA C22.2 No. 130:16
Requirements for electrical resistance trace heating and heating device sets

1 Scope

① **1.1**

This Standard specifies the requirements for trace heaters, surface heaters, and heating device sets for use on system voltages not exceeding 750 V that are intended to be installed in accordance with the *Canadian Electrical Code, Part I*. It applies to heating devices installed on or in metal and non-metallic pipes, tanks, vessels, and related equipment and to various surface heating applications. Typical applications include

a) the protection of pipes, tanks, and vessels, including fire protection systems, from freezing;
b) maintaining required temperatures on process equipment, including pipes, tanks, and vessels;
c) earth thermal storage;
d) hot water temperature maintenance;
e) surface heating, including floor, ceiling, and wall-heating;
f) snow melting; and
g) de-icing of roofs and gutters.

① **1.2**

This Standard does not apply to devices intended to heat or to stress relieve pipes or vessels using eddy current, induction, skin effect, or electric current passed directly through the pipe or vessel wall (impedance).

① **1.3**

This Standard does not apply to heating elements using carbon ink dispersion.

Note: *Carbon ink dispersion does not include an extruded polymer material.*

① **1.4**

This Standard does not apply to heating devices that are for use in hazardous locations.

Note: *The requirements for heating devices used in hazardous locations are now in CAN/CSA-C22.2 No 60079-30-1.*

① **1.5**

The values given in SI units are the units of record for the purposes of this Standard. The values given in parentheses are for information and comparison only.

① **1.6**

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.