

Electrical safety requirements for cranes and hoists



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Preface

This is the fourth edition of CSA C22.2 No. 33, *Electrical safety requirements for cranes and hoists*, 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 1984 under the title *Construction and test of electric cranes and hoists*.

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 Electric Cranes and Hoists, under the jurisdiction of the Technical Committee on Industrial 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 interpretations 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.*
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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*
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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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 - c) *wording of the proposed change; and*
 - d) *rationale for the change.*

CSA C22.2 No. 33:19

Electrical safety requirements for cranes and hoists

1 Scope

1.1

This Standard applies to all types of electric cranes, including electric overhead travelling cranes, and hoists for vertical lifting and lowering of freely suspended load for voltages of 750 V and less between conductors. The equipment specified in this Standard is intended for installation in accordance with CSA C22.1, *Canadian Electrical Code, Part I*.

Note: *Examples of electric overhead traveling cranes are*

- a) *single and double girder;*
- b) *gantry;*
- c) *semi-gantry;*
- d) *portal cranes,*
- e) *jib cranes;*
- f) *monorail systems;*
- g) *hoists; and*
- h) *trolley.*

1.2

This Standard applies to the following cranes and hoists electrification systems:

- a) bare non-rigid and rigid contact conductors, collector shoes and wheels, and associated fittings; and
- b) insulated conductor bar assemblies, collector trolley assemblies, and associated fittings (such as splices, power feeds, hangers, end caps, and similar).

1.3

This Standard applies to equipment for general industrial and commercial application, in nonhazardous locations for indoor and outdoor locations.

1.4

This Standard applies to equipment for installation in an ambient temperature not exceeding 40 °C.

1.5

This Standard applies to wireless control equipment used in conjunction with electric cranes and hoists.

1.6

This Standard does not apply to

- a) elevators;
- b) dumbwaiters;
- c) stairway hoists;
- d) tower cranes;
- e) manually operated chain driven cranes;