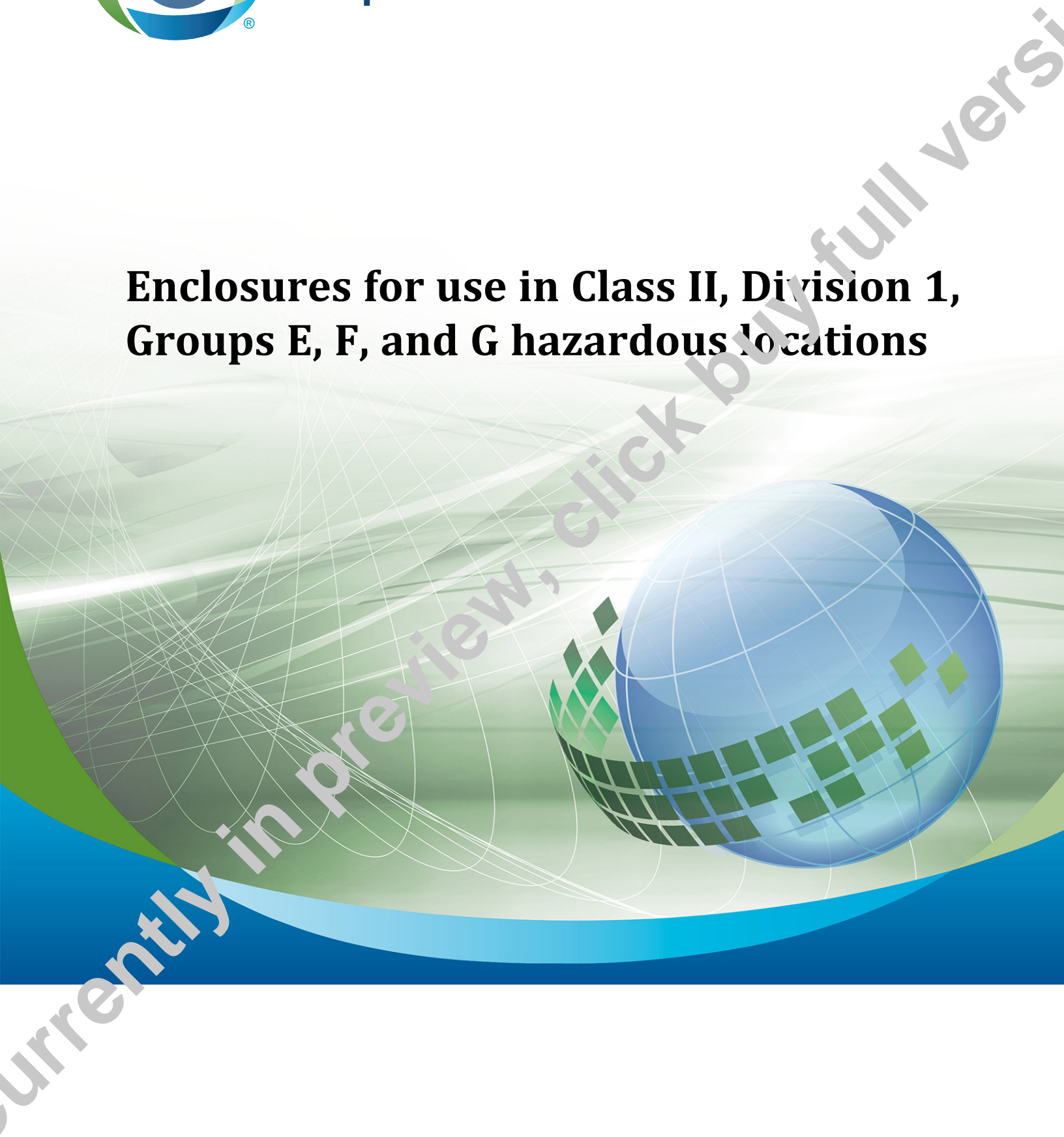




**CSA  
Group**

**C22.2 No. 25-17**

# **Enclosures for use in Class II, Division 1, Groups E, F, and G hazardous locations**



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*C22.2 No. 25-17*  
***Enclosures for use in Class II,  
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hazardous locations***



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# Preface

This is the fourth edition of C22.2 No. 25, *Enclosures for use in Class II, Division 1 Groups E, F, and G hazardous locations*. It supersedes the previous editions published in 1966, 1950 and 1936 published under the title *Enclosures for use in Class II Groups E, F and G hazardous locations*.

Changes to this edition include

- a) updating the title and scope as applying to Class II, Division 1;
- b) adding requirements for non-metallic enclosures;
- c) adding alternative dust exclusion test;
- d) adding metric dimensions;
- e) adding optional marking for Division and temperature;
- f) adding provisions for enclosures without threaded entries; and
- g) reorganization per current editorial practice.

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 Hazardous Location Products 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.

**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 [inquiries@csagroup.org](mailto: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](http://standardsactivities.csa.ca).*

- 5) *This Standard is subject to review within 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](mailto: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.*

# C22.2 No. 25-17

## **Enclosures for use in Class II, Division 1, Groups E, F, and G hazardous locations**

### **1 Scope**

#### **1.1**

This Standard applies to enclosures for electrical equipment, other than lighting fixtures, intended to be used in Class II, Division 1, Groups E, F, and G hazardous locations in accordance with CSA C22.1, *Canadian Electrical Code, Part I*.

#### **1.2**

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.

### **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 Group**

C22.1-15

*Canadian Electrical Code, Part I*

CAN/CSA-C22.2 No. 0-10 (R2015)

*General Requirements – Canadian Electrical Code, Part II*

C22.2 No. 0.5-16

*Threaded conduit entries*

CAN/CSA-C22.2 No. 60079-0:15

*Explosive atmospheres - Part 0: Equipment - General requirements*

CAN/CSA-C22.2 No. 60529:16

*Degrees of Protection Provided by Enclosures (IP Code)*

### 3 Definitions

The following definitions shall apply in this Standard:

**Continuous operating temperature** — temperature range which ensures the stability and integrity of the material for the expected life of the equipment, or part, in its intended application.

**Service temperature** — maximum or minimum temperature reached at specific points of the equipment when the equipment is operating at rated conditions, including ambient temperature and any external sources of heating or cooling.

**Note:** *Equipment may reach different service temperatures in different parts.*

### 4 General requirements

General requirements applicable to this Standard are given in CAN/CSA-C22.2 No. 0.

### 5 Construction

#### 5.1 General

Component parts shall be of types specifically approved for the use intended or shall be investigated with, and as an integral part of, the electrical equipment.

#### 5.2 Materials

##### 5.2.1 Corrosion protection

Ferrous alloys other than stainless steel shall have a protective coating to resist rust and corrosion in accordance with CAN/CSA-C22.2 No. 0. For enclosures, this coating shall be applied to both the inside and outside surface.

##### 5.2.2 Metallic enclosures

The strength and rigidity of an enclosure shall be suited to the purpose intended and shall be such that any unevenness of mounting surface will not impair the necessary close fit between the body and cover or other removable part. If the thickness of metal is less than the following it shall be subject to special investigation:

- a) 3 mm for sand castings up to 235 cm<sup>2</sup> in area\*; 4.7 mm for sand castings over 235 cm<sup>2</sup> in area\*;
- b) 2.4 mm for malleable, permanent mold or die-castings; or
- c) that shown in Table 1 for sheet metal.

\* *Any side or surface.*

##### 5.2.3 Non-metallic enclosures or parts of enclosures

Non-metallic enclosures or parts of enclosures shall have a continuous operating temperature (COT) rating at least equal to its service temperature.