CSA Group

C22.2 No. 56-17

Flexible metal conduit and liquid-tight flexible metal conduit

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Preface

This is the seventh edition of CSA C22.2 No. 56, *Flexible metal conduit and association liquid-tight flexible metal conduit,* one of a series of Standards issued by CSA Group under the *Canadian Electrical Code, Part II*. It supersedes the previous editions published in 2013, 2004, 1977, 1961, 1954, and 1938.

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 Metal Conduit and Tubing, 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.

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.*
4) *To submit a request for interpretation of this Standard, please send the following information to 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.
5) *This Standard is subject to review five years from the date of publication, and 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 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.*

   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.

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Flexible metal conduit and liquid-tight flexible metal conduit

1 Scope

1.1
This Standard applies to flexible metal conduit and liquid-tight flexible metal conduit, trade sizes 12 (3/8) to 103 (4), excluding 14 (7/16), intended for use as a metal raceway for the installation of conductors in accordance with the *Canadian Electrical Code, Part I.* In addition, this Standard applies to special purpose flexible metal conduit, trade sizes 10 (5/16) and 14 (7/16), intended for other applications requiring the conductors to be enclosed in a flexible metal raceway.

1.2
Liquid-tight flexible metal conduit covered by this Standard is provided with an overall thermoplastic jacket that is recognized for use at a maximum temperature of 60 °C, 75 °C, or 105 °C.

Note: *For conduit sizes in this Standard, the metric trade designator is given first, with the trade size in inches following in parentheses.*

1.3
The values given in SI (metric) units are the standard. The values given in parentheses are for information only.

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.

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. 211.0-03 (R2013)
General requirements and methods of testing for nonmetallic conduit

C22.2 No. 2556-15
Wire and cable test methods

ASTM International

D2412-11
Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading

National Research Council Canada

National Building Code of Canada, 2015

3 Definitions

The following definitions shall apply in this Standard:

Flexible metal conduit — a conduit of metallic material that can be easily bent without the use of tools.

Heavy-duty liquid-tight flexible metal conduit — a liquid-tight flexible metal conduit showing a higher level of flexion, tension, crush, and pull out force with the connector.

Liquid-tight flexible metal conduit — a flexible metal conduit having an outer liquid-tight jacket.

Thermoplastic — polymeric material that can be repeatedly softened by heating and hardened by cooling and that in the softened state can be shaped through the application of force.

4 General requirements

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

5 Construction

5.1 Strip

5.1.1 Material

Liquid-tight flexible metal conduit shall be fabricated from either bronze or zinc-coated steel strip or from strip cut from acceptable zinc-coated sheet steel (with no additional zinc-coating operation). Flexible metal conduit shall be fabricated from either aluminum or zinc-coated steel strip. The strip material shall have a uniform width and thickness throughout its entire length.

