CSA GROUP™

CSA C22.2 No. 198.3:21
National Standard of Canada

Coated electrical sleeving

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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.

National Standard of Canada

CSA C22.2 No. 198.3:21
Coated electrical sleeving

ICS 29.035.20

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Standard for Safety for Coated Electrical Sleeving

Third Edition, Dated June 21, 2021

Summary of Topics

This is the Fifth Edition of ANSI/UL 1441, Standard for Coated Electrical Sleeving, which includes the updating of References.

The requirements are substantially in accordance with Proposal(s) on this subject dated September 27, 2019 and November 27, 2020.

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CSA Group
CSA C22.2 No. 198.3:21
Third Edition

Underwriters Laboratories Inc.
UL 1441
Fifth Edition

Coated electrical sleeving

June 21, 2021

ANSI/UL 1441-2021

Commitment for Amendments

This standard is issued jointly by the Canadian Standards Association (operating as “CSA Group”) and Underwriters Laboratories Inc. (UL). Comments or proposals for revisions on any part of the standard may be submitted to CSA Group or UL at anytime. Revisions to this standard will be made only after processing according to the standards development procedures of CSA Group and UL. CSA Group and UL will issue revisions to this standard by means of a new edition or revised or additional pages bearing their date of issue.

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This Standard is subject to review within 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: Standard designation (number); relevant clause, table, and/or figure number; wording of the proposed change; and rationale for the change.

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This ANSI/UL Standard for Safety consists of the Fifth Edition.

The most recent designation of ANSI/UL 1441 as an American National Standard (ANSI) occurred on June 21, 2021. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page (front and back), or the Preface.

Comments or proposals for revisions on any part of the Standard may be submitted to UL at any time. Proposals should be submitted via a Proposal Request in UL's On-Line Collaborative Standards Development System (CSDS) at https://csds.ul.com.

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Preface

This is the harmonized CSA Group and UL standard for Coated Electrical Sleeving. It is the third edition of CSA-C22.2 No. 198.3 and the fifth edition of UL 1441. This edition of CSA-C22.2 No. 198.3 supersedes the previous edition(s) published published in 1995 and 2005. This edition of UL 1441 supersedes the previous edition published on November 27, 2018.

This harmonized standard was prepared by the CSA Group and Underwriters Laboratories Inc. (UL). The efforts and support of the Technical Harmonization Committee 15C (Electrical Tubing and Sleeving Products) of the Council on the Harmonization of Electrotechnical Standards of the Nations of the Americas (CANENA) are gratefully acknowledged.

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

This standard was reviewed by the CSA Subcommittee on Insulation Systems, under the jurisdiction of the CSA Technical Committee on Wiring Products and the CSA Strategic Steering Committee on Requirements for Electrical Safety, and has been formally approved by the CSA 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.

Application of Standard

Where reference is made to a specific number of samples to be tested, the specified number is to be considered a minimum quantity.

Note: 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.

Level of harmonization

This standard uses the IEC format but is not based on, nor is it to be considered equivalent to, an IEC standard.

This standard is published as an equivalent standard for CSA and UL.

An equivalent standard is a standard that is substantially the same in technical content, except as follows: Technical national differences are allowed for codes and governmental regulations as well as those recognized as being in accordance with NAFTA Article 905, for example, because of fundamental climatic, geographical, technological, or infrastructural factors, scientific justification, or the level of protection that the country considers appropriate. Presentation is word for word except for editorial changes.

Reasons for differences from IEC

The Technical Harmonization Subcommittee identified the following standard as being within the scope of this standard: IEC 60684, Flexible Insulating Sleeving. IEC 60684 and UL 1441/CSA C22.2 No. 198.3 are similar but not identical. Both standards cover multiple, but not identical, products and similar methods. The THC agreed to address the issues involved in the harmonization of these standards during the next revision of UL 1441/CSA C22.2 No. 198.3.

Interpretations

The interpretation by the standards development organization of an identical or equivalent standard is based on the literal text to determine compliance with the standard in accordance with the procedural rules of the standards development organization. If more than one interpretation of the literal text has been identified, a revision is to be proposed as soon as possible to each of the standards development organizations to more accurately reflect the intent.

Coated electrical sleeving

1 Scope

1.1 The requirements of this Standard apply to Grades A and B acrylic-polymer-coated, silicone-polymer-coated, or vinyl-polymer-coated electrical sleeving that consists of closely woven fabric made from glass (see Table 1 for materials and ratings) and intended for use in equipment designed to be installed and used in accordance with the rules of CSA C22.1, Canadian Electrical Code, Part I, (CE Code, Part 1), or ANSI/NFPA 70, National Electrical Code (NEC). A product for use at temperatures greater than indicated in 1.2 or a different polymer coating or fiber may be acceptable provided that

(a) it meets the performance tests in this Standard; and

(b) long-term heat-aging tests are conducted as covered in UL 746B or CAN/CSA-C22.2 No. 0.17, using dielectric strength as a primary property and flammability as a secondary property.

1.2 These requirements apply to coated electrical sleeving having a standard temperature index classification of 105, 130, 155, 180, 200, 220, and 240 °C.

1.3 These requirements apply to coated electrical sleeving intended for use in connection with the internal wiring of electrical devices and appliances located in dry or damp locations where it is not feasible to employ a standard insulated conductor, such as appliance-wiring material, specifically intended for the purpose. Coated electrical sleeving is intended for insulating one or more uninsulated or partially insulated conductors, bus bars, component leads, or assemblies of electrical components. Coated electrical sleeving may be employed in equipment where it is not subjected to repeated flexing or severe mechanical stress.

1.4 These requirements apply to oil-resistant coated electrical sleeving intended for occasional or intermittent contact with oil.

1.5 These requirements do not apply to unimpregnated or uncoated fabric sleeving, which is generally not considered acceptable for sole (functional) insulation because of the openings inherent in the weave construction of the sleeving fabric.

1.6 These requirements do not apply to tubing extruded with reinforcement, extruded electrical tubing, or tubing intended only for mechanical protection, since they are covered by other requirements.

1.7 These requirements do not apply to coated electrical sleeving when it is employed as splice insulation in an insulation system above 105 °C (Class A) operation.

2 Reference publications and definitions

2.1 Reference publications

For undated references to standards, such reference shall be considered to refer to the latest edition and all revisions to that edition up to the time when this Standard was approved.

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