# UL 62275

## STANDARD FOR SAFETY

Cable Management Systems – Cable Ties for Electrical Installations

UL Standard for Safety for Cable Management Systems – Cable Ties for Electrical Installations UL 62275

Third Edition, Dated September 24, 2021

***Summary of Topics***

***This new edition of ANSI/UL 62275 dated September 24, 2021 is being issued to update requirements to those published in IEC 62275, Standard for Cable Management Systems – Cable Ties for Electrical Installations.***

***UL 62275 is an adoption of IEC 62275, Edition 3, issued August 2018. Please note that the National Difference document incorporates all of the U.S. national differences for UL 62275.***

The requirements are substantially in accordance with Proposal(s) on this subject dated December 18, 2020.

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**Association of Standardization and Certification**
**NMX-J-623-ANCE-2021**
**Third Edition**

**CSA Group**
**CSA C22.2 No. 62275:21**
**Third Edition**
**(IEC 62275:2018, MOD)**

**Underwriters Laboratories Inc.**
**UL 62275**
**Third Edition**

# Cable Management Systems – Cable Ties for Electrical Installations

September 24, 2021

This national standard is based on publication IEC 62275, Third Edition (2018).



**ANSI/UL 62275-2021**

**Commitment for Amendments**

This standard is issued jointly by the Association of Standardization and Certification (ANCE), 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 ANCE, CSA Group, or UL at anytime. Revisions to this standard will be made only after processing according to the standards development procedures of ANCE, 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. ANCE will incorporate the same revisions into a new edition of the standard bearing the same date of issue as the CSA Group and UL pages.



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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. The technical content of IEC and ISO publications is kept under constant review by IEC and ISO. 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 Third Edition.

The most recent designation of ANSI/UL 62275 as an American National Standard (ANSI) occurred on September 24, 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 ANCE, CSA Group, and UL standard for Cable management systems – Cable ties for electrical installations. It is the third edition of NMX-J-623-ANCE, CSA C22.2 No. 62275, and UL 62275. This edition of NMX-J-623-ANCE, CSA C22.2 No. 62275 and UL 62275 supersedes the previous edition published October 14, 2016.

This harmonized standard is based on IEC Publication 62275: third edition, Cable management systems – Cable ties for electrical installations, issued August 2018. IEC 62275 is copyrighted by the IEC.

This harmonized standard was prepared by the Association of Standardization and Certification (ANCE), CSA Group, and Underwriters Laboratories Inc. (UL). The efforts and support of the CANENA Technical Harmonization Subcommittee 23A-62275 are gratefully acknowledged.

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

The present Mexican Standard was developed by the CT PIE-A from the Comite de Normalizacion de la Asociacion de Normalizacion y Certificacion, A.C., CONANCE, with the collaboration of the manufacturers and users.

This standard was reviewed by the CSA Integrated Committee on Fittings, Hardware, and Positioning Devices, 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 adopts the IEC text with national differences.

This standard is published as an identical standard for ANCE, CSA Group, and UL.

An identical standard is a standard that is exactly the same in technical content except for national differences resulting from conflicts in codes and governmental regulations. Presentation is word for word except for editorial changes.

All national differences from the IEC text are included in the ANCE, CSA Group and UL versions of the standard. While the technical content is the same in each organization's version, the format and presentation may differ.

**Reasons for Differences From IEC**

Differences from the IEC are being added in order to address safety and regulatory situations present in the US, Canada and Mexico.

**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.

**IEC Copyright**

For ANCE, the text, figures, and tables of International Electrotechnical Commission Publication 62275, Cable management systems – Cable ties for electrical installations, copyright 2018, are used in this standard according to the guidelines provided in the ISO/IEC/POCOSA.

For CSA Group, the text, figures, and tables of International Electrotechnical Commission Publication 62275, Cable management systems – Cable ties for electrical installations, copyright 2018, are used in this standard with the consent of the International Electrotechnical Commission. The IEC Foreword is not a part of the requirements of this standard but is included for information purposes only.

## NATIONAL DIFFERENCES

National Differences from the text of International Electrotechnical Commission (IEC) Publication 62275, Cable management systems – Cable ties for electrical installations, copyright 2018, are indicated by notations (differences) and are presented in bold text. The national difference type is included in the body.

There are five types of National Differences as noted below. The difference type is noted on the first line of the National Difference in the standard. The standard may not include all types of these National Differences.

**DR –** These are National Differences based on the **national regulatory requirements**.

**D1 –** These are National Differences which are based on **basic safety principles and requirements**, elimination of which would compromise safety for consumers and users of products.

**D2 –** These are National Differences from IEC requirements based on existing **safety practices**. These requirements reflect national safety practices, where empirical substantiation (for the IEC or national requirement) is not available or the text has not been included in the IEC standard.

**DC –** These are National Differences based on the **component standards** and will not be deleted until a particular component standard is harmonized with the IEC component standard.

**DE –** These are National Differences based on **editorial comments or corrections**.

Each national difference contains a description of what the national difference entails. Typically one of the following words is used to explain how the text of the national difference is to be applied to the base IEC text:

***Addition / Add*** - An addition entails adding a complete new numbered clause, subclause, table, figure, or annex. Addition is not meant to include adding select words to the base IEC text.

***Modification / Modify*** - A modification is an altering of the existing base IEC text such as the addition, replacement or deletion of certain words or the replacement of an entire clause, subclause, table, figure, or annex of the base IEC text.

***Deletion / Delete*** - A deletion entails complete deletion of an entire numbered clause, subclause, table, figure, or annex without any replacement text.

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# FOREWORD

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## CABLE MANAGEMENT SYSTEMS – CABLE TIES FOR ELECTRICAL INSTALLATIONS

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.

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5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.

6) All users should ensure that they have the latest edition of this publication.

7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.

8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.

9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.



International Standard IEC 62275 has been prepared by subcommittee 23A: Cable management systems, of IEC technical committee 23: Electrical accessories.

This third edition cancels and replaces the second edition published in 2013. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) consideration of adhesive fixing devices,

b) revised and updated normative references,

c) modified definitions for metallic and composite cable ties,

d) new definitions,

e) improvement of test procedures,

f) new figures for typical arrangement of test assembly for fixing devices and for integral fixing devices.

The text of this standard is based on the following documents:

| FDIS | Report on voting |
|---|---|
| 23A/851A/FDIS | 23A/868/RVD |

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The following differing practices of a less permanent nature exist in the countries indicated below.

– 6.2.2: additional type classifications are applicable when pre-qualified moulding materials are used (Canada, USA).

– 6.2.3: additional type classifications are applicable when pre-qualified moulding materials are used (Canada, USA).

– 7.3: some marking information is required to be placed on the packaging (Canada, Russia, USA).

In this publication, the following print types are used:

– Requirements proper: in roman type.

– *Test specifications: in italic type.*

– Notes: in smaller roman type.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

• reconfirmed,

• withdrawn,

• replaced by a revised edition, or

• amended.

**DV.1 DE *Modify the IEC Foreword by adding the following:***

**The numbering system in the standard uses a space instead of a comma to indicate thousands and uses a comma instead of a period to indicate a decimal point. For example, 1 000 means 1,000 and 1,01 means 1.01.**

# CABLE MANAGEMENT SYSTEMS – CABLE TIES FOR ELECTRICAL INSTALLATIONS

## 1 Scope

This document specifies requirements for metallic, non-metallic and composite cable ties and their associated fixing devices used for the management and support of wiring systems in electrical installations.

**1DV.1 D2** ***Modify Clause 1 by replacing the first paragraph with the following:***

**This Standard specifies requirements for metallic, non-metallic, and composite cable ties and their associated fixing devices and integral assemblies used for the management and support of wiring systems in electrical installations in accordance with the Canadian Electrical Code (CE Code), Part I, CSA C22.1, in Canada, Standard for Electrical Installations, NOM-001-SEDE, in Mexico, and the National Electrical Code (NEC), NFPA 70, in the United States of America.**

Cable ties and associated fixing devices can also be suitable for other applications and where so used, additional requirements can apply.

This document does not contain requirements that evaluate any electrical insulation properties of the cable tie or mechanical protection of the cables provided by the cable tie.

This document contains requirements for the mechanical interface of an adhesive fixing device to a solid surface. It does not consider the mechanical behaviour of the solid surface in itself.

This document does not consider the mechanical interface, for example the mounting screw, of a fixing device other than adhesive to a solid surface.

**1DV.2 D2** ***Modify Clause 1 by deleting the last paragraph and adding the following note:***

**NOTE 1DV: This Standard considers the mechanical securement means of a fixing device to a surface when the means for securing is provided with the fixing device or is part of the fixing device, i.e., the push mount for an integral fixing device (See 9.7.1, 9.7.2, and 9.7.3).**



## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60068-2-6:2007,
*Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60695-11-5:2016,
*Fire hazard testing – Part 11-5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance*

IEC 60216-4-1:2006,
*Electrical insulating materials – Thermal endurance properties – Part 4-1: Ageing ovens – Single-chamber ovens*

ISO 4892-2:2013,
*Plastics – Methods of exposure to laboratory light sources – Part 2: Xenon-arc lamps*

ISO 9227:2017,
*Corrosion tests in artificial atmospheres – Salt spray tests*

**2DV D1 *Modify Clause 2 by adding the following:***

**2DV.1 In Canada, the following additional normative references apply:**

**CSA C22.1-18**
***Canadian Electrical Code, Part I***

**CSA C22.2 No. 0:20**
***General requirements – Canadian Electrical Code, Part II***

**CAN/CSA-C22.2 No. 0.17-00 (R2018)**
***Evaluation of properties of polymeric materials***

**CAN/ULC-S142:2016**
***Standard method of fire test for heat and visible smoke release for discrete products***

**2DV.2 In the United States, the following additional normative references apply:**

**NFPA 70-2020**
***National Electrical Code (NEC®)***

**UL 94**
***Standard for Tests for Flammability of Plastic Materials for Parts in Devices and Appliances***

**UL 746A**
***Standard for Polymeric Materials – Short Term Property Evaluations***

**UL 746B**
***Standard for Polymeric Materials – Long Term Property Evaluations***

**UL 746C**
***Standard for Polymeric Materials – Use in Electrical Equipment Evaluations***

**UL 2043**
***Fire Test for Heat and Visible Smoke Release for Discrete Products and their Accessories Installed in Air-Handling Spaces***

**2DV.3 The following additional normative references apply:**

**ASTM D1002-10 (2019)**
***Standard Test Method for Apparent Shear Strength of Single-Lap-Joint Adhesively Bonded Metal Specimens by Tension Loading (Metal-to-Metal)***

**IEC 60695-11-10:2013**
***Fire hazard testing – Part 11-10: Test flames – 50 W horizontal and vertical flame test methods***

**2DV.4 In Mexico, the following normative references apply. Compliance with the requirements in IEC and ISO standards shall be according to the relevant Mexican standards provided in Annex DVF:**

**NMX-J-417-ANCE-2005**
***Wires and cables – Convection laboratory ovens for evaluation of electrical insulation – Specifications and test methods***

**NMX-J-553-ANCE-2002**
***Wires and cables – Weather resistance of insulation or jacket of electrical conductors – Test method***

**NMX-J-564/1-3-ANCE-2010**
***Environmental testing for electrical equipment – Part 1-3: Method of testing corrosion endurance – Salt mist***

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply. ISO and IEC maintain terminological databases for use in standardization at the following addresses:

• IEC Electropedia: available at http://www.electropedia.org/

• ISO Online browsing platform: available at http://www.iso.org/obp

3.1
**cable tie**
band or length of material, employing a locking device, used for bundling or tying groups of cables together, securing and/or supporting the cables

Note 1 to entry: Type 1 and Type 2 cable ties are classified in 6.2.2 and 6.2.3.

Note 2 to entry: In some countries, such as Canada and the United States, additional Type classifications are applicable when prequalified moulding materials are used. See UL 62275/CSA C22.2 No. 62275.

3.2
**fixing device**
component (such as a block or bracket) specifically designed to secure the cable tie to a mounting surface

3.3
**metallic component**
component that consists of metal only

Note 1 to entry: A metallic cable tie having a thin non-metallic or organic coating, where the coating does not contribute to the determination of the loop tensile strength, is considered a metallic component

Note 2 to entry: In case of doubt, "as-received condition" tests with and without coating can be carried out.