



UL 2239

Underwriters Laboratories Inc. Standard for Safety

Hardware for the Support of
Conduit, Tubing, and Cable



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UL Standard for Safety for Hardware for the Support of Conduit, Tubing, and Cable, UL 2239

First Edition, Dated February 16, 2004

Revisions: This Standard contains revisions through and including July 7, 2009.

Summary of Topics

The revisions dated May 8, 2009 are harmonized with CSA and were issued to incorporate the following:

- 1. Revision to Update Normative References in Clause 2.***
- 2. Addition of New Definition for Positioning Device.***
- 3. Clarification that all Devices are to be Subjected to Mechanical Tests in Clause 5.1.3.***
- 4. Deletion of the Option for the Carbon-Arc Test Method in the Resistance to Ultraviolet Light and Water Test.***
- 5. Clarification of ISO Test Method References in Clauses 6.4.5.4 and 6.8.2.***
- 6. Editorial Correction to Clause 7.2.1(c).***
- 7. Revision of Marking Requirement in Clause 10.8 to Add Option for Classification Codes.***

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Text that has been changed in any manner is marked with a vertical line in the margin.

The following table lists the future effective dates with the corresponding item.

Future Effective Date	References
July 7, 2011	5.1.3

The new and revised requirements are substantially in accordance with UL's Proposal(s) on this subject dated September 26, 2008.

The revisions dated May 8, 2009 include a reprinted title page (page1) for this Standard.

As indicated on the title page (page 1), this UL Standard for Safety is an American National Standard. Attention is directed to the note on the title page of this Standard outlining the procedures to be followed to retain the approved text of this ANSI/UL Standard.

The UL Foreword is no longer located within the UL Standard. For information concerning the use and application of the requirements contained in this Standard, the current version of the UL Foreword is located on ULStandardsInfoNet at: <http://ulstandardsinfo.net.ul.com/ulforeword.html>

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New product submittals made prior to a specified future effective date will be judged under all of the requirements in this Standard including those requirements with a specified future effective date, unless the applicant specifically requests that the product be judged under the current requirements. However, if the applicant elects this option, it should be noted that compliance with all the requirements in this Standard will be required as a condition of continued Recognition, Listing, and Follow-Up Services after the effective date, and understanding of this should be signified in writing.

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(Title Page Reprinted: May 8, 2009)



ANSI/UL 2239-2009

Approved
by
Standards Council
of Canada



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Commitment for Amendments

This Standard is issued jointly by the Canadian Standards Association (CSA) and Underwriters Laboratories Inc. (UL). Comments or proposals for revisions on any part of the standard may be submitted to CSA or UL at any time. Revisions to this standard will be made only after processing according to the standards development procedures of CSA and UL. CSA 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 ANSI/UL Standard for Safety consists of the First Edition including revisions through May 8, 2009.

The most recent designation of ANSI/UL 2239 as an American National Standard (ANSI) occurred on May 8, 2009. 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 <http://csds.ul.com>.

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Preface

This is the harmonized CSA and UL standard for *Hardware for the Support of Conduit, Tubing, and Cable*. It is the first edition of CSA C22.2 No. 18.4 and the first edition of UL 2239. This edition of CSA C22.2 No. 18.4 supersedes the requirements of CSA C22.2 No. 18, published in 1998, for products covered in this standard, as indicated in the scope of this standard.

This harmonized standard was prepared by the Canadian Standards Association (CSA) and Underwriters Laboratories Inc. (UL). The efforts and support of the Technical Harmonization Subcommittee for Conduit and Cable Hardware, 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 C22.2 No. 18, 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 will be submitted to the Standards Council of Canada (SCC) for approval as a National Standard of Canada.

This standard has been approved by the American National Standards Institute (ANSI) as an American National 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 THSC investigated and found no existing IEC standards or work programs covering the scope of the products in this standard.

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.

CSA Effective Date

The effective date for CSA International will be announced through *CSA Informs* or a CSA certification notice.

UL Effective Date

As of July 7, 2009 all products Listed by UL must comply with the requirements in this standard except for Clause 5.1.3, where the effective date is July 7, 2011.

A UL effective date is one established by Underwriters Laboratories Inc. and is not part of the ANSI approved standard.

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Hardware for the Support of Conduit, Tubing, and Cable

1 Scope

1.1 These requirements cover hardware for the support of conduit, tubing, and cable, such as HANGERS, STAPLES, STRAPS, and similar devices for installation in accordance with the National Electrical Code, NFPA 70, and the Canadian Electrical Code (CEC), Part I.

1.2 These requirements also cover STANDOFFS for nonmetallic-sheathed cable and PROTECTOR PLATES.

1.3 These requirements do not cover hardware for use with surface raceway, wireway, or busway systems, sprinkler systems, and other piping systems used for fire protection service, hardware for use with lighting fixtures, or hardware for grounding and bonding applications.

1.4 These requirements do not cover:

- a) Hardware intended to support boxes (see UL 514A or CSA C22.2 No. 18.1),
- b) Conduit and cable fittings (see UL 514B or CSA C22.2 No. 18.3),
- c) Reducing washers (see UL 514B or CSA C22.2 No. 18.3),
- d) Pulling grips for cable or cord (see UL 514B or CSA C22.2 No. 18.3),
- e) Cable ties (see UL 1565 or CSA C22.2 No. 18.5), or
- f) Positioning devices (see UL 1565 or CSA C22.2 No. 18.5).

2 Normative References

2.1 Products covered by this standard shall comply with the reference installation codes and standard as appropriate for the country where the product is to be used. When the product is intended for use in more than one country, the product shall comply with the installation codes and standards for all countries where it is intended to be used.

2.2 For undated reference to standards, such reference shall be considered to refer to the latest edition and all amendments to that edition up to the time when this standard was approved. For dated reference to standards, such reference shall be considered to refer to the dated edition and all amendments published up to the time the standard was approved.

CSA Standards

C22.1-09

Canadian Electrical Code, Part I

C22.2 No. 0.15-01

Adhesive Labels

CAN/CSA-C22.2 No. 0.17-00

Evaluation of Properties of Polymeric Materials

C22.2 No. 18.1-04
Metallic Outlet Boxes

C22.2 No. 18.3-04
Conduit, Tubing, and Cable Fittings

C22.2 No. 18.5-02
Positioning Devices

UL Standards

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

UL 514A
Metallic Outlet Boxes

UL 514B
Conduit, Tubing, and Cable Fittings

UL 969
Marking and Labeling Systems

UL 1565
Positioning Devices

ASTM¹ Standards

ASTM B 117-97
Standard Practice for Operating Salt Spray (Fog) Apparatus

ASTM D 1654-92 (2000)
Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments

ASTM F 1137-00
Standard Specification for Phosphate/Oil and Phosphate/Organic Corrosion Protective Coatings for Fasteners

IEC² Standard

IEC 60695-11-10 (1999-03)
Fire Hazard Testing Part 11-10: Test Flames-50W Horizontal and Vertical Flame Test Methods

ISO³ Standards

ISO 4892-1:1999
Plastics-Methods of exposure to laboratory light sources – Part 1: General guidance

ISO 4892-2:2006
Plastics-Methods of exposure to laboratory light sources – Part 2: Xenon-arc lamps

NFPA⁴ Standard

NFPA 70-2008
National Electrical Code

¹American Society for Testing and Materials

²International Electrotechnical Commission

³International Organization for Standardization

⁴National Fire Protection Association

3 Definitions

3.1 For the purpose of this standard, the following definitions apply. Terms used throughout this standard which have been defined in this Clause are in small roman capital type font.

3.2 **AIR-HANDLING SPACE:** A duct or plenum used for environmental air and other spaces used for environmental air, such as above hung ceilings or below raised floors. This does not include plenums used for the removal of dust, loose stock, or vapor, or for ventilation of commercial-type cooking equipment.

3.3 **BEAM CLAMP:** A **HARDWARE DEVICE** intended for use in conjunction with a beam.

Note: For the purpose of this standard, a flange, purlin, or other similar mounting surface is considered to be a beam.

3.4 **ELASTOMER:** Rubber or any polymer other than a thermoplastic **ELASTOMER** that has properties similar to those of rubber.

3.5 **HANGER:** A **HARDWARE DEVICE** intended to support conduit, cable, or tubing from a building structure or other structural support assemblies.

3.6 **HARDWARE DEVICE:** A means for supporting conduit, cable, or tubing from, or securing in place conduit, cable, or tubing to, a building structure or other structural support assemblies.

3.7 **LOAD RATING:** A maximum static load as identified by the manufacturer, in kg (lb), intended for a **HARDWARE DEVICE**.

3.7A **POSITIONING DEVICE:** For wire management and class of workmanship-related purposes, a device used for positioning or providing limited support for conduit or tubing in addition to required supports or where supports are not required.

Note: Positioning devices are not within the scope of this standard.

3.8 **PROTECTOR PLATE:** A means to provide protection for cables or tubing from nails or screws in concealed installations.

3.9 **STANDOFF:** In Canada, a nonmetallic means provided to prevent direct contact of nonmetallic-sheathed cable with metal studs when installed in parallel with the stud.

In the United States, **STANDOFFS** for nonmetallic-sheathed cable are not recognized.