



CSA C22.2 No. 332:22
National Standard of Canada



Electric vehicle cable



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Title: *Electric vehicle cable*

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ICS 43.120

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Standard for Safety for Electric Vehicle Cable

First Edition, Dated May 9, 2022

Summary of Topics

This is the First Edition of the Standard for Electric Vehicle Cable, dated May 9, 2022 and specifies the requirements for electric vehicle cables rated up to 1000V AC and DC intended to be part of a cord set carried in the vehicle for connection to a charging station or for permanent or temporary connection to Electric Vehicle Supply Equipment (EVSE) or for connection to the branch circuit supplying the EVSE or vice versa.



Association of Standardization and Certification
NMX-J-738-ANCE
First Edition



CSA Group
CSA C22.2 No. 332:22
First Edition



Underwriters Laboratories Inc.
UL 2263
First Edition

Electric Vehicle Cable

May 9, 2022



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 ANSI/UL Standard for Safety consists of the First Edition. The most recent designation of ANSI/UL 2263 as an American National Standard (ANSI) occurred on May 9, 2022. 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 electric vehicle cable. It is the first edition of NMX-J-738-ANCE, CSA C22.2 No. 332, and UL 2263.

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 Technical Harmonization Subcommittee, TC 20 Electrical Wires and Cables 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.

The present Mexican standard was developed by the CT 20 Conductores from the Comité de Normalización de la Asociación de Normalización y Certificación, A.C., CONANCE, with the collaboration of the manufacturers and users of electric conductors.

This standard was reviewed by the CSA Subcommittee on Flexible Cords/Equipment and Appliance Wires and Cables, 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 the 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 considered equivalent to, an IEC standard.

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.

Reasons for Differences From IEC

This standard provides requirements for insulated cords and cables in accordance with the codes of Canada, Mexico, and the United States. At present there is no IEC standard for cords and cables for use in accordance with these codes. Therefore, this standard does not employ any IEC standard for base requirements.

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.

1 Scope

1.1 General

This standard specifies the requirements for electric vehicle cables rated up to 1000V AC and DC intended to be part of a cord set carried in the vehicle for connection to a charging station or for permanent or temporary connection to Electric Vehicle Supply Equipment (EVSE) or for connection to the branch circuit supplying the EVSE or vice versa for use in accordance with CSA C22.1, Canadian Electrical Code (CE Code), Part I in Canada, NOM-001-SEDE, La Norma de Instalaciones Electricas (Mexican Electrical Code [MEC]), in Mexico, and NFPA 70, National Electrical Code (NEC), in the United States.

1.2 Products included

This standard covers sunlight and oil resistant electric vehicle cables rated 300V, 600V and 1000V AC and DC, and 60 °C, 75 °C, 90 °C, or 105 °C cables meeting the construction requirements for Electric Vehicle cables designated EV, EVE, EVJ, EVJT, EVT, EVJE as appropriate. These cables may contain data, signal, communications and/or optical fiber cables.

2 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. For dated references to standards, such reference shall be considered to refer to the dated edition and all revisions published to that edition up to the time the standard was approved.

ANCE (Association of Standardization and Certification)

NMX-J-008-ANCE

Wires and Cables – Tinned Soft or Annealed Copper Wire for Electrical Purposes – Specifications

NMX-J-036-ANCE

Wires and Cables – Soft or Annealed Copper Wire for Electrical Purposes – Specifications

NMX-J-040-ANCE

Wires and Cables – Determination of the Moisture Absorption in Insulations of Electrical Conductors – Test Method

NMX-J-066-ANCE

Wires and Cables – Determination of the Diameter of Electrical Conductors – Test Method

NMX-J-177-ANCE

Wires and Cables – Determination of the Thicknesses in Semiconducting Shields, Insulations and Jackets of Electrical Conductors – Test Method

NMX-J-178-ANCE

Wires and Cables – Ultimate Strength and Elongation of Insulation, Semiconducting Shields and Jackets of Electrical Conductors – Test Method

NMX-J-190-ANCE

Wires and Cables – Thermal Shock Resistance of PVC Insulations and Protective Coverings of Electrical Conductors – Test Method