



UL 486D

STANDARD FOR SAFETY

Sealed Wire Connector Systems

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UL Standard for Safety for Sealed Wire Connector Systems, UL 486D

Sixth Edition, Dated June 19, 2015

Summary of Topics

This new edition of ANSI/UL 486D includes the following changes: a) NEC 555.9 and use in marina (salt environment), Clause 1.1; b) Normative reference updates, Section 2.2; c) Wire size units, AWG/kcmil, units, Clauses 3.1 and 3.2; d) Wire connector test clarification, Clause 7.1.1; e) Two conductor requirement, Clause 9.1.2; f) Conductor insulation for size 16 AWG and smaller, Clause 9.1.4; g) Impact Test apparatus, Figure A.1; and h) Clarification to Clause 10.2.

As noted in the Commitment for Amendments statement located on the back side of the title page, UL, CSA, and ANCE are committed to updating this harmonized standard jointly.

The new and revised requirements are substantially in accordance with Proposal(s) on this subject dated January 23, 2015.

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Association of Standardization and Certification
NMX-J-519-ANCE
Third Edition



Canadian Standards Association
CSA C22.2 No. 198.2
Third Edition



Underwriters Laboratories Inc.
UL 486D
Sixth Edition

Sealed Wire Connector Systems

June 19, 2015



ANSI/UL 486D-2015

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This ANSI/UL Standard for Safety consists of the Sixth Edition. The most recent designation of ANSI/UL 486D as an American National Standard (ANSI) occurred on June 19, 2015. 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 ANCE, CSA Group, and UL standard for sealed wire connector systems. It is the third edition of NMX-J-519-ANCE, the third edition of CSA C22.2 No. 198.2, and the sixth edition of UL 486D. This edition of NMX-J-519-ANCE supersedes the previous edition published in 2006. This edition of CSA C22.2 No. 198.2 supersedes the previous edition published in 2005. This edition of UL 486D supersedes the previous edition published in 2005.

This harmonized standard was prepared by the Association of Standardization and Certification (ANCE), the CSA Group and Underwriters Laboratories Inc. (UL). The efforts and support of the Technical Harmonization Committee for Connectors, THC 99, 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.

The present Mexican standard was developed by the SC 20D – Conectores part of the CT 20 - Conductores from the Comité de Normalización de la Asociación de Normalización y Certificación, A.C., CONANCE, with the collaboration of the connectors manufacturers and users.

This standard was reviewed by the CSA Subcommittee on C22.2 No. 198.2, 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 approved by the American National Standards Institute (ANSI) as an American National Standard.

Application of Standard

Where reference is made to a specific number of samples to be tested, the specified number shall 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 shall it be considered equivalent to, an IEC standard. This standard is published as an equivalent standard for ANCE, 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

At present there is no IEC standard for sealed wire connector systems. 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.

ANCE Effective Date

The effective date for ANCE will be announced through the Diario Oficial de la Federación (Official Gazette) and is indicated on the cover page.

CSA Group Effective Date

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

UL Effective Date

The effective date for UL LLC will be announced through Industry File Review – Announcement Letter.

1 Scope

1.1 The requirements in this standard cover sealed wire connector systems, including insulating caps, covers, resins, tubing, and tapes provided with, or for use with, specific wire connectors. These systems are intended for wet or damp locations, and other installations such as direct burial, below grade, or above grade where protected from direct exposure to sunlight. The wire connectors covered by these requirements are intended for use with copper conductor, aluminum conductor, or both in accordance with installations covered by the National Electrical Code, NFPA 70; the Canadian Electrical Code, Part I, C22.1; and NOM 001 SEDE, Standard for Electrical Installations.

Note 1: These wire connector systems have not been evaluated for direct exposure to sunlight. Additional performance considerations to show equivalency to the connected conductors should be considered for UV exposure.

Note 2: These wire connector systems have not been evaluated for direct exposure to salt or seawater.

Note 3: These wire connector systems may also be used indoors.

1.2 These requirements also cover sealed wire connector systems intended for use with single or multiple conductor underground feeder cable, golf course sprinkler cable, underground low energy cable, irrigation cable, or other cable with insulation acceptable for direct burial, below grade use, or wet locations.

1.3 These requirements apply to sealed wire connector systems intended for use with 30 AWG (0.05 mm²) through 2,000 kcmil (1,012 mm²) conductors with currents not exceeding the ampacity of insulated conductors rated either 75°C (167°F) or 90°C (194°F) and intended for use at 600 V or less.

2 Reference publications

2.1 Undated and dated references

2.1.1 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.

2.1.2 Where reference is made to any Standards, such reference shall be considered to refer to the latest editions and revisions thereto available at the time of printing, unless otherwise specified.

2.2 Normative references

2.2.1 ANCE Standards

NMX-J-543-ANCE-13
Wire Connectors

NMX-J-548-ANCE-13
Splicing Wire Connectors

2.2.2 CSA Standards

Note: For products intended for use in Canada, general requirements are given in CAN/CSA-C22.2 No. 0.

C22.1-15
Canadian Electrical Code, Part I

CAN/CSA-C22.2 No. 0-10
General Requirements – Canadian Electrical Code, Part II

C22.2 No. 65-13
Wire Connectors

C22.2 No. 188-13
Splicing Wire Connectors

2.2.3 UL Standards

UL 486A-486B
Wire Connectors

UL 486C
Splicing Wire Connectors

2.2.4 ASTM Standards (American Society for Testing and Materials)

ASTM G21-13
Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi