UL 486F

STANDARD FOR SAFETY

Bare and Covered Ferrules

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UL Standard for Safety for Bare and Covered Ferrules, UL 486F

Third Edition, Dated December 9, 2024

Summary of Topics

This revision of ANSI/UL 486F dated August 28, 2026 includes the following changes in requirements:

– Addition of Stranding Table for Metric Conductors; Table A.2.

– Revise Wire Range in Scope; 1.3 and Table 10.1.

– Update Definition of "Ferrule"; 4.4

Text that has been changed in any manner or impacted by ULSE's electronic publishing system is marked with a vertical line in the margin.

The new and revised requirements are substantially in accordance with Proposal(s) on this subject dated May 29, 2026.

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CSA Group
CSA C22.2 No. 291:24
Third Edition

ULSE Inc.
UL 486F
Third Edition

Bare and Covered Ferrules

December 9, 2024

(Title Page Reprinted: August 28, 2026)

Approved American National Standard

ANSI/UL 486F-2026

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This ANSI/UL Standard for Safety consists of the Third Edition including revisions through August 28, 2026.

The most recent designation of ANSI/UL 486F as an American National Standard (ANSI) occurred on August 28, 2026. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page (front and back), or the Preface.

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ANNEX A – Conductor Stranding (Informative)

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PREFACE

This is the harmonized CSA Group and ULSE standard for Bare and Covered Ferrules. It is the third edition of CSA C22.2 No. 291 and the third edition of UL 486F. This edition of CSA C22.2 No. 291 supersedes the previous editions published in 2019 and 2014. This harmonized standard has been jointly revised on August 28, 2026. For this purpose, CSA Group and ULSE are issuing revision pages dated August 28, 2026.

This harmonized standard was prepared by CSA Group and ULSE. The efforts and support of the Technical Harmonization Subcommittee, CANENA Technical Harmonization Committee 99 – Electrical Connectors 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 Integrated Committee on Electrical Connectors, 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 considered equivalent to, an IEC standard.

This standard is published as an equivalent standard for CSA Group and ULSE.

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 bare and covered ferrules. Therefore, this Standard does not employ any IEC standard for base requirements.

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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.

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1 Scope

1.1 These requirements cover bare and covered ferrules intended for field wiring and factory wiring for use in accordance with the National Electrical Code, NFPA 70 and Canadian Electrical Code, Part I, CSA C22.1.

1.2 This standard applies to ferrules that are intended to facilitate the connection of stranded wire on to devices, such as terminal blocks. Their purpose is to treat stripped wire and prevent turned back strands during installation. They are intended to be used to attach to one stranded copper conductor or two stranded copper conductors of the same size.

1.3 When intended for use with one conductor, these ferrules are suitable for use with 777 kcmil – 26 AWG, 400 – 0.14 mm^2, stranded copper conductors. For conductor sizes 8 AWG, 10 mm^2 or larger, these ferrules are suitable for use with stranded copper conductors that are more finely stranded than Class B or C conductors.

NOTE: Examples of stranding classes more finely stranded than class B or C are classes G, H, I, K, M, 5, and 6. In addition, Type DLO cable is more finely stranded than Class B or C.

1.4 When intended for use with two conductors, these ferrules are suitable for use with (2) 6 – (2) 26 AWG, (2) 16 – (2) 0.25 mm^2, stranded copper conductors.

1.5 This standard applies to ferrules that are intended to be terminated in wire connection devices rated for:

a) Solid copper conductors; and/or

b) Stranded copper Class B and C conductors – applicable to wire connection devices rated to terminate conductor sizes 8 AWG, 10 mm^2 or larger.

1.6 Ferrules covered by this standard are not intended for use in IDC (insulation displacement connection) terminal blocks.

1.7 This Standard applies to Ferrules rated for use with conductor sizes 2/0 AWG, 70 mm^2 or larger that are intended for use in aluminum and copper body mechanical connectors with dome and conical shaped screws that apply direct pressure to the conductor being terminated.

1.8 This standard does not apply to wire connectors such as pin adapters covered in CSA C22.2 No. 65 or UL 486A-486B.

1.9 Ferrules covered by this standard may be used with equipment having short circuit ratings of:

a) 85,000 A maximum, or

b) 100,000 A maximum if supplied by an overcurrent protective device, and the equipment short-circuit current rating, divided by the number of conductors per phase, results in a current of 50,000 A or less per conductor.

2 Normative References

2.1 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.

C22.1, *Canadian Electrical Code, Part I*

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