



UL 5A

Underwriters Laboratories Inc.
Standard for Safety

Nonmetallic Surface Raceways
and Fittings



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Underwriters Laboratories Inc. (UL)
333 Pfingsten Road
Northbrook, IL 60062-2096

UL Standard for Safety for Nonmetallic Surface Raceways and Fittings, UL 5A

Third Edition, Dated July 18, 2003

Revisions: This Standard contains revisions through and including August 21, 2008.

Summary of Topics

Revisions to UL 5A are being issued:

1. To add new requirements (United States only) for flush duplex receptacle securement (4.7.3)

2. For the conduit identification marking in 7.4

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

Future Effective Date	References
July 1, 2010	Clause 4.7.3

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

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

The revised requirements are substantially in accordance with UL's Proposal(s) on this subject dated April 4, 2008.

The revisions dated August 21, 2008 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 master for this Standard at UL's Northbrook Office is the official document insofar as it relates to a UL service and the compliance of a product with respect to the requirements for that product and service, or if there are questions regarding the accuracy of this Standard.

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The requirements in this Standard are now in effect, except for those paragraphs, sections, tables, figures, and/or other elements of the Standard having future effective dates as indicated in the preface. The prior text for requirements that have been revised and that have a future effective date are located after the Standard, and are preceded by a "SUPERSEDED REQUIREMENTS" notice.

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 Listing, Recognition, and Follow-Up Services after the effective date, and understanding of this should be signified in writing.

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This Standard consists of pages dated as shown in the following checklist:

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Nonmetallic Surface Raceways and Fittings

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(Title Page Reprinted: August 21, 2008)

Approved
by
Standards Council
of Canada



ANSI/UL 5A-2008

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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Preface

This is the common CSA and UL standard for Nonmetallic Surface Raceways and Fittings. It is the first edition of CSA C22.2 No. 62.1 and the third edition of UL 5A. This edition of CSA C22.2 No. 62.1 supersedes the requirements of CSA standard C22.2 No. 62, published in 1993, for products covered in this standard, as indicated in the scope of this standard. This edition of UL 5A supersedes the previous edition(s) published on March 19, 1999. This common standard has been jointly revised on August 21, 2008. For this purpose CSA and UL are issuing revision pages dated August 21, 2008.

This common standard was prepared by the Canadian Standards Association (CSA) and Underwriters Laboratories Inc. (UL). The efforts and support of the CANENA Technical Harmonization Committee 23A SNR Working Group 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. 62, 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.

A UL standard is current only if it incorporates the most recently adopted revisions, all of which are itemized on the transmittal notice that accompanies the latest set of revised requirements.

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 determined the safe use of electrical surface raceway and fittings is dependent on the design and performance of the raceway and cable systems with which they are intended to be installed. Significant investigation is required to assess safety and system compatibility issues that may lead to

harmonization of traditional North American electrical raceway and fittings with those presently addressed in the known IEC standards. The THSC agreed such future investigation might be facilitated by completion of harmonization of the North American standards for electrical surface raceway and fittings.

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 August 21, 2008 all products Listed or Recognized by UL must comply with the requirements in this standard except for Clause 4.7.3, which is effective July 1, 2010.

Between August 21, 2008 and July 1, 2010, new product submittals to UL may be evaluated under all requirements in this Standard or, if requested in writing, evaluated under presently effective requirements only.

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

The most recent designation of ANSI/UL 5A as an American National Standard (ANSI) occurred on August 19, 2008. The ANSI approval for this standard does not include the Cover Page, Transmittal Pages, Title Page, or Preface. This ANSI/UL Standard for Safety, which consists of the third edition with revisions through August 21, 2008, is under continuous maintenance, whereby each revision is ANSI approved upon publication.

Revisions of this Standard will be made by issuing revised or additional pages bearing their date of issue. A UL Standard is current only if it incorporates the most recently adopted revisions, all of which are itemized on the transmittal notice that accompanies the latest set of revised requirements. 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>.

Foreword (CSA)

The Canadian Standards Association (CSA) develops standards under the name Canadian Standards Association, and provides certification and testing under the name CSA International. CSA International provides certification services for manufacturers who, under license from CSA, wish to use the appropriate registered CSA Marks on certain products of their manufacture to indicate conformity with CSA Standards.

CSA Certification for a number of products is provided in the interest of maintaining agreed-upon standards of quality, performance, interchangeability and/or safety, as appropriate. Where applicable, certification may form the basis for acceptance by inspection authorities responsible for enforcement of regulations. Where feasible, programs will be developed for additional products for which certification is desired by producers, consumers, or other interests. In performing its functions in accordance with its objectives, CSA does not assume or undertake to discharge any responsibility of the manufacturer or any other party. The opinions and findings of the Association represent its professional judgement given with due consideration to the necessary limitations of practical operation and state of the art at the time the Standard is processed.

Products in substantial accord with this Standard but which exhibit a minor difference or a new feature may be deemed to meet the Standard providing the feature or difference is found acceptable utilizing appropriate CSA International Operating Procedures. Products that comply with this Standard shall not be certified if they are found to have additional features which are inconsistent with the intent of this Standard. Products shall not be certifiable if they are discovered to contravene applicable laws or regulations.

Testing techniques, test procedures, and instrumentation frequently must be prescribed by CSA International in addition to the technical requirements contained in Standards of CSA. In addition to markings specified in the Standard, CSA International may require special cautions, markings, and instructions that are not specified by the Standard.

Some tests required by CSA Standards may be inherently hazardous. The Association neither assumes nor accepts any responsibility for any injury or damage that may occur during or as the result of tests, wherever performed, whether performed in whole or in part by the manufacturer or the Association, and whether or not any equipment, facility, or personnel for or in connection with the test is furnished by the manufacturer or the Association.

Manufacturers should note that, in the event of the failure of CSA International to resolve an issue arising from the interpretation of requirements, there is an appeal procedure: the complainant should submit the matter, in writing, to the Secretary of the Canadian Standards Association.

If this Standard is to be used in obtaining CSA Certification please remember, when making application for certification, to request all current Amendments, Bulletins, Notices, and Technical Information Letters that may be applicable and for which there may be a nominal charge. For such information or for further information concerning CSA Certification, please address your inquiry to Applications and Customer Service, CSA International, 178 Rexdale Boulevard, Toronto, Ontario, Canada M9W 1R3.

Foreword (UL)

A. This Standard contains basic requirements for products covered by Underwriters Laboratories Inc. (UL) under its Follow-Up Service for this category within the limitations given below and in the Scope section of this Standard. These requirements are based upon sound engineering principles, research, records of tests and field experience, and an appreciation of the problems of manufacture, installation, and use derived from consultation with and information obtained from manufacturers, users, inspection authorities, and others having specialized experience. They are subject to revision as further experience and investigation may show is necessary or desirable.

B. The observance of the requirements of this Standard by a manufacturer is one of the conditions of the continued coverage of the manufacturer's product.

C. A product which complies with the text of this Standard will not necessarily be judged to comply with the Standard if, when examined and tested, it is found to have other features which impair the level of safety contemplated by these requirements.

D. A product employing materials or having forms of construction which conflict with specific requirements of the Standard cannot be judged to comply with the Standard. A product employing materials or having forms of construction not addressed by this Standard may be examined and tested according to the intent of the requirements and, if found to meet the intent of this Standard, may be judged to comply with the Standard.

E. UL, in performing its functions in accordance with its objectives, does not assume or undertake to discharge any responsibility of the manufacturer or any other party. The opinions and findings of UL represent its professional judgment given with due consideration to the necessary limitations of practical operation and state of the art at the time the Standard is processed. UL shall not be responsible to anyone for the use of or reliance upon this Standard by anyone. UL shall not incur any obligation or liability for damages, including consequential damages, arising out of or in connection with the use, interpretation of, or reliance upon this Standard.

F. Many tests required by the Standards of UL are inherently hazardous and adequate safeguards for personnel and property shall be employed in conducting such tests.

Nonmetallic Surface Raceways and Fittings

1 Scope

1.1 These requirements cover nonmetallic raceways and fittings. These products are for use as surface wiring systems in accordance with the National Electrical Code® (NEC) and Canadian Electrical Code (CEC), Part I.

1.2 Raceways that are all nonmetallic and of any thickness are intended to enclose circuits operating at potentials not exceeding 600 V between conductors.

1.3 Nonmetallic raceways with metal covers are intended to enclose circuits operating at potentials in accordance with Table 1 or Table 1A.

1.4 These requirements do not cover surface metal raceways, cable trays, or wireways.

2 Definitions

2.1 For the purpose of this Standard, the following definitions apply:

ACCESSORY – a part that may be added to a raceway system for a special purpose (for example, guards, hangers, retainers).

FITTING, RACEWAY – a part used to connect, change direction, or terminate a surface raceway (for example, a transition coupler, an end cap, a corner, a tee, an adapter, or a box) or a system specific wiring device that completes the system.

FIXTURE BOX – a box used for the support of a lighting fixture, lampholder, or other equipment intended for similar installation.

NONMETALLIC – a polymeric part.

SURFACE NONMETALLIC RACEWAY – a raceway for surface or suspension mounting with a nonmetallic base and a nonmetallic or metal cover.

SURFACE RACEWAY SYSTEM – a system consisting of a surface raceway and associated fittings, which may include wiring devices and accessories.

WIRING DEVICE – a part of an electrical system intended to carry, provide a means of connection to, or provide control of electrical energy within a raceway system (for example, switches or receptacles).