

UL 60745-2-3

Hand-Held Motor-Operated Electric Tools – Safety – Part 2-3: Particular Requirements for Grinders, Polishers and Disk-Type Sanders

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UL Standard for Safety for Hand-Held Motor-Operated Electric Tools – Safety – Part 2-3: Particular Requirements for Grinders, Polishers, and Disk-Type Sanders, UL 60745-2-3

Second Edition, Dated May 31, 2007

Summary of Topics

Adoption of the Second Edition of IEC 60745-2-3, Hand-Held Motor-Operated Electrical Tools - Safety - Part 2-3: Particular Requirements for Grinders, Polishers and Disk-Type Sanders, as the Second Edition of UL 60745-2-3, with major changes highlighted as follows: a) Revised Scope to clarify types of equipment covered; b) Additional normative references; c) Expanded definitions; d) Revised markings and instructions relative to the symbol "n" for rated speed, manufacturer-chosen operating terms, and additional instructions/warnings common to all operations of tools; e) Revised 12.4 to specify 30 minute test duration; f) Additional Clause 16 to indicate that Clause 16 of Part 1 applies; g) Revised Clause 18 to require that spindle speed not exceed 120 percent of rated speed during the test; h) Revised Clause 19 to allow a wheel guard to be removed without the aid of a tool, to specify that tools with a capacity greater than 100 mm shall have at least two handles, and specific requirements for wheel guards for grinders; i) Additional mechanical strength requirements for wheel guards; j) Additional requirements for switches particular to grinders and disk-type sanders; k) Revised Clause 24.4 to specify supply cord usage type ratings for angle and straight grinders; l) Revised Clause 29.3 to specify severe duty condition for disk-type sanders and grinders; m) Addition of Annexes K and L to address battery powered tools and their battery packs; n) Deleted Appendixes A, C, and D; and o) Other miscellaneous clarifications

The requirements are substantially in accordance with UL's Proposal(s) on this subject dated September 1, 2006 and December 22, 2006.

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/ulforeword.html>

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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

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UL 60745-2-3
Second Edition

Hand-Held Motor-Operated Electric Tools – Safety – Part 2-3: Particular Requirements for Grinders, Polishers and Disk-Type Sanders

May 31, 2007

This national standard is based on publication IEC 60745-2-3, Second Edition (2006).



ANSI/UL 60745-2-3-2007

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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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The most recent designation of ANSI/UL 60745-2-3 as an American National Standard (ANSI) occurred on May 31, 2007. The ANSI approval for this standard does not include the Cover Page, Transmittal Pages, or the Title Page.

This ANSI/UL Standard for Safety, which consists of the second edition, is under continuous maintenance, whereby each revision is ANSI approved upon publication.

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Preface

This is the common CSA and UL standard for Hand-Held Motor-Operated Electric Tools – Safety – Part 2-3: Particular Requirements for Grinders, Polishers, and Disk-Type Sanders. It is the second edition of CAN/CSA-C22.2 No. 60745-2-3 and the second edition of UL 60745-2-3. This standard is based on IEC 60745-2-3, second edition.

The first edition of this standard was designated CAN/CSA-C22.2 No. 745-2-3/UL 745-2-3. This standard CAN/CSA-C22.2 No. 60745-2-3/UL 60745-2-3, second edition, supersedes:

- a) the first edition CAN/CSA-C22.2 No. 745-2-3/UL 745-2-3 published in 1995; and
- b) CAN/CSA-C22.2 No. 745-4-3/UL 745-4-3, (requirements for battery tools and battery packs are now incorporated into the requirements of CAN/CSA-C22.2 No. 60745-2-3, second edition, and UL 745-4-3, second edition).

The standard number has been aligned to correspond with the equivalent IEC 60745-2-3 standard.

This common standard was prepared by the Canadian Standards Association (CSA) and Underwriters Laboratories Inc. (UL).

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 Safety of Hand-Held Motor-Operated Electric Tools, under the jurisdiction of the CSA Technical Committee on Consumer and Commercial 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 as a National Standard of Canada by the Standards Council 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 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 adopts the IEC text with national differences. 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.

All national differences from the IEC text are included in the CSA and UL versions of the standard. While the technical content is the same in each organization's version, the format and presentation may differ.

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CSA 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 is the date of publication.

However, the first edition of UL 745-2-3 will also be effective until June 1, 2010. When requested by the manufacturer in writing, products may be evaluated to the applicable UL 745 standards until June 1, 2010.

As of June 1, 2010 all products Listed or Recognized by UL shall comply with the requirements in this standard.

General

The text, figures and tables of IEC 60745-2-3 are used in this standard with the consent of the International Electrotechnical Commission.

The IEC Foreword and Introduction are not a part of the requirements of this standard but are included for information purposes only.

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NATIONAL DIFFERENCES

In the CSA and UL publications of this standard, National Differences from the text of International Electrotechnical Commission (IEC) Publication 60745-2-3, Safety Requirements for Hand-Held Motor-Operated Electrical Tools – Safety – Part 2-3: Particular Requirements for Grinders, Polishers and Disk-Type Sanders, copyright 2006 are indicated by notations (differences) and are presented in bold text. The national difference type is included in the body.

There are five types of National Differences as noted below. The difference type is noted on the first line of the National Difference in the standard. The standard may not include all types of these National Differences.

DR – These are National Differences based on the **national regulatory requirements**.

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D2 – These are National Differences based on **safety practices**. These are differences for IEC requirements that may be acceptable, but adopting the IEC requirements would require considerable retesting or redesign on the manufacturer's part.

DC – These are National Differences based on the **component standards** and will not be deleted until a particular component standard is harmonized with the IEC component standard.

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HAND-HELD MOTOR-OPERATED ELECTRIC TOOLS – SAFETY – Part 2-3: Particular requirements for grinders, polishers and disk-type sanders

FOREWORD

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International Standard IEC 60745-2-3 has been prepared by subcommittee 61F: Safety of hand-held motor-operated electric tools, of IEC technical committee 61: Safety of household and similar electrical appliances.