UL 62841-2-22:2026

(IEC 62841-2-22:2025, MOD)

STANDARD FOR SAFETY

Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery – Safety – Part 2-22: Particular Requirements for Hand-Held Cut-Off Machines

UL Standard for Safety for Electric Motor-Operated Hand-Held ToolsTransportable Tools and Lawn and Garden Machinery – Safety – Part 2-22: Particular Requirements for Hand-Held Cut-Off Machines, UL 62841-2-22

First Edition, Dated October 2, 2026

Summary of Topics

This is the First Edition of ANSI/UL 62841-2-22, Standard for Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery – Safety – Part 2-22: Particular Requirements for Hand-Held Cut-Off Machines dated October 2, 2026.

UL 62841-2-22 is an adoption of IEC 62841-2-22, 1.0 Edition, issued by the IEC June 2025. Please note that the National Difference document incorporates all of the U.S. national differences for UL 62841-2-22.

The new requirements are substantially in accordance with Proposal(s) on this subject dated February 27, 2026.

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Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery – Safety – Part 2-22: Particular Requirements for Hand-Held Cut-Off Machines

October 2, 2026

This national standard is based on publication IEC 62841-2-22, First Edition (2025).

Approved American National Standard

ANSI

ANSI/UL 62841-2-22-2025

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This ANSI/UL Standard for Safety consists of the First Edition.

The most recent designation of ANSI/UL 62841-2-22-2025 as an American National Standard (ANSI) occurred on October 2, 2026 approval for a standard does not include the Cover Page, Transmittal Pages, Title Page (front and back), or the preface.

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Contents

Preface 5

NATIONAL DIFFERENCES 6

FOREWORD 9

1 Scope 11

2 Normative references 11

3 Terms and definitions 12

4 General requirements 16

5 General conditions for the tests 17

6 Radiation, toxicity and similar hazards 17

7 Classification 17

8 Marking and instructions 17

9 Protection against access to live parts 23

10 Starting 23

11 Input and current 23

12 Heating 23

13 Resistance to heat and fire 23

14 Moisture resistance 23

15 Resistance to rusting 26

16 Overload protection of transformers and associated circuits 26

17 Endurance 26

18 Abnormal operation 26

19 Mechanical hazards 27

19.101 Wheel guard 27
19.102 Spindles 30
19.103 Wheel mounting means 31
19.104 Strength of flanges 35

20 Mechanical strength 36

20.101 Strength of wheel guard..... 38

21 Construction.....43

22 Internal wiring.....46

23 Components..... 46

24 Supply connection and external flexible cords.....46

25 Terminals for external conductors..... 47

26 Provision for earthing.....48

27 Screws and connections.....48

28 Creepage distances, clearances and distances through insulation.....48

Annexes..... 49

Annex I (informative) Measurement of noise and vibration emissions..... 50

I.2 Noise test code (grade 2)..... 50
I.2.4 Installation and mounting conditions of the power tools during noise tests.....50
I.2.5 Operating conditions.....50
I.3 Vibration..... 58
I.3.3.2 Location of measurement.....58
I.3.5.3 Operating conditions.....59
I.3.6.2 Declaration of the vibration total value..... 61

Annex K (normative) Battery tools and battery packs..... 62

Annex L (normative) Battery tools and battery packs provided with mains connection or non-isolated sources.....65

Bibliography..... 66

Preface

This is the harmonized CSA Group and ULSE standard for Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery – Safety – Part 2-22: Particular Requirements for Hand-Held Cut-Off Machines. It is the First edition of CSA C22.2 No. 62841-2-22 and the First edition of UL 62841-2-22.

This harmonized standard is based on IEC Publication 62841-2-22: First edition, Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery – Safety – Part 2-22: Particular Requirements for Hand-Held Cut-Off Machines, issued June 2025. IEC 62841-2-22 is copyrighted by the IEC.

This harmonized standard was prepared by CSA Group and ULSE. The efforts and support of the International Harmonization Committee (IHC) for the adoption of the IEC series of standards for Hand-Held, Motor-Operated, and Transportable Tools and Lawn and Garden Machinery, 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 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 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.

CSA C22.2 No. 62841-2-22 is to be used in conjunction with the First edition of CAN/CSA-C22.2 No. 62841-1. The requirements for hand-held cut-off machines are contained in this Part 2-22 Standard and CAN/CSA-C22.2 No. 62841-1. Requirements of this Part 2-22 Standard, where stated, amend the requirements of CAN/CSA-C22.2 No. 62841-1. Where a particular subclause of CAN/CSA-C22.2 No. 62841-1 is not mentioned in CSA C22.2 No. 62841-2-22, the CAN/CSA-C22.2 No. 62841-1 subclause applies.

UL 62841-2-22 is to be used in conjunction with the First edition of UL 62841-1. The requirements for hand-held cut-off machines are contained in this Part 2-22 Standard and UL 62841-1. Requirements of this Part 2-22 Standard, where stated, amend the requirements of UL 62841-1. Where a particular subclause of UL 62841-1 is not mentioned in UL 62841-2-22, the UL 62841-1 subclause applies.

Level of harmonization

This Standard adopts the IEC text with national differences.

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

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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 Group and ULSE versions of the standard. While the technical content is the same in each organization's version, the format and presentation may differ.

Reasons for Differences From IEC

National differences from the IEC are being added in order to address safety and regulatory situations present in the US and Canada.

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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For CSA Group, the text, figures, and tables of International Electrotechnical Commission Publication 62841-2-22, Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery – Safety – Part 2-22: Particular Requirements for Hand-Held Cut-Off Machines, copyright 2025, are used in this Standard with the consent of the International Electrotechnical Commission. The IEC Foreword is not a part of the requirements of this Standard but is included for information purposes only.

These materials are subject to copyright claims of IEC and ULSE. No part of this publication may be reproduced in any form, including an electronic retrieval system, without the prior written permission of ULSE. All requests pertaining to the Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery – Safety – Part 2-22: Particular Requirements for Hand-Held Cut-Off Machines, UL 62841-2-22 Standard should be submitted to ULSE.

NATIONAL DIFFERENCES

National Differences from the text of International Electrotechnical Commission (IEC) Publication 62841-2-22, Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery – Safety – Part 2-22: Particular Requirements for Hand-Held Cut-Off Machines, copyright 2025, 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**.

D1 – These are National Differences which are based on **basic safety principles and requirements**, elimination of which would compromise safety for consumers and users of products.

D2 – These are National Differences from IEC requirements based on existing **safety practices**. These requirements reflect national safety practices, where empirical substantiation (for the IEC or national requirement) is not available or the text has not been included in the IEC standard.

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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.

DE – These are National Differences based on **editorial comments or corrections**.

Each national difference contains a description of what the national difference entails. Typically one of the following words is used to explain how the text of the national difference is to be applied to the base IEC text:

Addition / Add - An addition entails adding a complete new numbered clause, subclause, table, figure, or annex. Addition is not meant to include adding select words to the base IEC text.

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Deletion / Delete - A deletion entails complete deletion of an entire numbered clause, subclause, table, figure, or annex without any replacement text.

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FOREWORD

ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS, TRANSPORTABLE TOOLS AND LAWN AND GARDEN MACHINERY – SAFETY – Part 2-22: Particular requirements for hand-held cut-off machines

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

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8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.

9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at https://patents.iec.ch. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 62841-2-22 has been prepared by IEC technical committee 116: Safety of motor-operated electric tools. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
116/870/FDIS	116/887/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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This document is to be used in conjunction with IEC 62841-1:2014.

This document supplements or modifies the corresponding clauses in IEC 62841-1, so as to convert it into the IEC Standard: Particular requirements for hand-held cut-off machines.

Where a particular subclause of IEC 62841-1 is not mentioned in this document, that subclause applies as far as reasonable. Where this document states "addition", "modification" or "replacement", the relevant text in IEC 62841-1 is to be adapted accordingly.

The following print types are used:

– requirements: in roman type;

– *test specifications: in italic type*;

– terms defined in Clause 3: **in bold type**

– notes: in small roman type.

Subclauses, notes, tables and figures which are additional to those in IEC 62841-1 are numbered starting from 101.

Subclauses, notes, tables and figures in Annex K and Annex L which are additional to those in the main body of this document are numbered starting from 301.

A list of all parts in the IEC 62841 series, published under the general title *Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

• reconfirmed,

• withdrawn, or

• revised.

NOTE The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations may need a transitional period following publication of a new, amended or revised IEC publication in which to make products in accordance with the new requirements and to equip themselves for conducting new or revised tests.

It is the recommendation of the committee that the content of this publication be adopted for implementation nationally not earlier than 36 months from the date of publication.

101DV DE Modification: Add the following to the IEC Foreword:

The numbering system in the standard uses a space instead of a comma to indicate thousands and uses a comma instead of a period to indicate a decimal point. For example, 1 000 means 1,000 and 1,01 means 1.01.

102DV DE Modification: Add the following to the IEC Foreword:

For this Standard, all references to "IEC 62841-1:2014" refer to CAN/CSA-C22.2 No. 62841-1 and UL 62841-1.

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1 Scope

IEC 62841-1:2014, Clause 1 is applicable, except as follows:

Replacement of the third paragraph:

The **rated voltage** is not more than 250 V for single-phase a.c. or d.c. tools, and 480 V for three-phase a.c. tools.

Addition:

This document applies to hand-held **cut-off machines** fitted with

– one **bonded reinforced wheel** of Type 41 or Type 42; or

– one or more **diamond cutting wheels** with peripheral gaps, if any,

- having no positive rake angle; and
- not exceeding 10 mm for **cut-off machines** other than **flush cutters**, **power cutters** and **wall chasers**;

and with

– a **rated no-load speed** not exceeding a peripheral speed of the wheel of 100 m/s at **rated capacity**; and

– a **rated capacity** not exceeding 430 mm.

NOTE 101 An example of a permitted **diamond cutting wheel** construction is shown in Figure 106.

These tools are intended to cut materials such as metals, concrete, masonry, glass and tile.

This document does not apply to:

– **cut-off machines** that can be converted to a grinder, sander or polisher, which are covered by IEC 62841-2-3;

– circular saws which are covered by IEC 62841-2-5; and

– die grinders and small rotary tools which are covered by IEC 62841-2-23;

– tools intended to cut wood, except for **utility cutters**;

– **cut-off machines** fitted with a **bonded reinforced wheel** of Type 42 with a diameter exceeding 230 mm.

2 Normative references

IEC 62841-1:2014, Clause 2 is applicable, except as follows:

Addition:

IEC 61008-1:2010, *Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs) – Part 1: General rules*IEC 61008-1:2010/AMD1:2012IEC 61008-1:2010/AMD2:2013

IEC 62841-1:2014, *Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety – Part 1: General requirements*

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ISO 19432-1:2020, *Building construction machinery and equipment – Portable, hand-held, internal combustion engine-driven abrasive cutting machines – Part 1: Safety requirements for cut-off machines for centre-mounted rotating abrasive wheels*

3 Terms and definitions

IEC 62841-1:2014, Clause 3 is applicable, except as follows:

Addition:

3.101
blotter
thin piece of an easily compressible material, between the abrasive wheel and **flange**

3.102
bonded reinforced wheelaccessory for cutting-off applications that are bonded by means of material such as resin, rubber, shellac or other similar bonding agents and which are reinforced by webbing, fabric or filament

Note 101 to entry: **Bonded reinforced wheels** are covered in ISO 603-15:2022 and ISO 603-16:2022.

Note 102 to entry: In the United States of America, **bonded reinforced wheels** are covered in ANSI/UAMA B7.1:2017.

3.103
cut-off machine
hand-held tool designed to cut by means of the periphery of a rotating abrasive cut-off wheel (**bonded reinforced wheel** or **diamond cutting wheel**) where the wheel is fixed on a spindle

Note 101 to entry: See .

3.104
diamond cutting wheel
metal **accessory** with the abrasives located on the periphery of the wheel

3.105
flange
collar, disc, or plate between or against which wheels are mounted

3.105.1
inner flange
part that contacts and provides support to the back side of the wheel and is located on the spindle between wheel and tool

3.105.2
outer flange
part that supports the front side of the wheel and secures and clamps the wheel to the spindle and the **inner flange**

3.106
flush cutter
cut-off machine that is designed to perform flush cutting operations

Note 101 to entry: See Figure 102.

Note 102 to entry: An example of a flush cutting operation is cutting a groove in a floor that is very close to a wall.

3.107
guide plate
flat plate mounted on the machine which rests on the material to be cut

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3.108
guide roller
roller mounted on the machine which rests on the material to be cut

3.109
power cutter
cut-off machine for cutting surfaces or materials with a standing operator and is provided with a front and rear handle that are located behind the rotating abrasive cut-off wheel

Note 101 to entry: See Figure 103.

3.110
rated capacity
maximum intended diameter of the rotating **accessory** to be fitted on the tool as recommended by the manufacturer's instructions

3.111
utility cutter
cut-off machine with a **rated capacity** not exceeding 100 mm

Note 101 to entry: See Figure 104.

3.112
wall chaser
cut-off machine on which one or more **diamond cutting wheels** are mounted and used for non-through cutting operations

Note 101 to entry: See Figure 105.

3.113
wheel guard
device which partly encloses the abrasive wheel and gives protection to the operator

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