UL 62841-2-3:2026

(IEC 62841-2-3:2020+AMD1:2024, MOD)

STANDARD FOR SAFETY

Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery – Safety – Part 2-3: Particular Requirements for Hand-Held Grinders, Disc-Type Polishers and Disc-Type Sanders

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UL Standard for Safety for Electric Motor-Operated Hand-Held Tools, Transportable Tools And Lawn And Garden Machinery – Safety – Part 2-3: Particular Requirements For Hand-Held Grinders, Disc-Type Polishers And Disc-Type Sanders, UL 62841-2-3

First Edition, Dated July 12, 2021

SUMMARY OF TOPICS

This revision of ANSI/UL 62841-2-3 dated April 23, 2026 adopts the IEC 62841-2-3 Corrigendum 1 (2021-04) and Amendment 1 (2024-10) and includes changes to Annex K.

UL 62841-2-3 is an adoption of the IEC 62841-2-3, Standard for Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery – Safety – Part 2-3: Particular Requirements for Hand-Held Grinders, Disc-Type Polishers and Disc-Type Sanders (Edition 1.1, issued October 2024). Please note that the national difference document incorporates all of the U.S. national differences for UL 62841-2-3.

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 December 19, 2025.

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Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery – Safety – Part 2-3: Particular Requirements for Hand-Held Grinders, Disc-Type Polishers and Disc-Type Sanders

July 12, 2021

(Title Page Reprinted: April 23, 2026)

This national standard is based on publication IEC 62841-2-3, First Edition (2020) and IEC Corrigendum 1 (2021) and Amendment 1 (2024).

ANSI/UL 62841-2-3-2026

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CONTENTS

Preface **5**

NATIONAL DIFFERENCES **7**

FOREWORD **9**

1 Scope 13
1DV.1 Modification: Replace NOTE 101 with the following: 13
1DV.2 Modification: Replace NOTE 103 with the following: 13
2 Normative references 14
3 Terms and definitions 14
4 General requirements 18
5 General conditions for the tests 18
6 Radiation, toxicity and similar hazards 18
7 Classification 18
8 Marking and instructions 18
8.14.1.101 Safety warnings for grinders, disc-type polishers and disctype sanders 21
9 Protection against access to live parts 27
10 Starting 27
11 Input and current 27
12 Heating 27
13 Resistance to heat and fire 27
14 Moisture resistance 28
15 Resistance to rusting 28
16 Overload protection of transformers and associated circuits 28
17 Endurance 28
18 Abnormal operation 28
19 Mechanical hazards 29
19.101 Wheel guard 29
19.102 Spindles 32
19.103 Flanges 32
19.104 Flange dimensions 32
19.105 Strength of flanges 36
20 Mechanical strength 37
20.101 Strength of wheel guards of Types A, B, C and D 37
20.102 Strength of wheel guards of Type F 45
20.103 Strength of wheel guards of Type G 46
21 Construction 48
22 Internal wiring 52
23 Components 52
24 Supply connection and external flexible cords 53
25 Terminals for external conductors 53
26 Provision for earthing 53
27 Screws and connections 53
28 Creepage distances, clearances and distances through insulation 53

Annexes

Annex I (informative) Measurement of noise and vibration emissions

I.2 Noise test code (grade 2) 55

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I.2.4 Installation and mounting conditions of the power tools during noise tests 55
I.2.5 Operating conditions 55
I.3 Vibration 55
I.3.3.2 Location of measurement 55
I.3.5.1 General 57
I.3.5.3 Operating conditions 57
I.3.5.4 Operator 64
I.3.6.1 Reported vibration value 64
I.3.6.2 Declaration of the vibration total value 64

Annex K (normative) Battery tools and battery packs

K.8.14.1.101 Safety warnings for grinders, disc-type polishers and disc-type sanders 66
K.8.14.1.101.2DV National Difference Deleted 66

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

Annex AA (normative) Wheel guard types

AA.1 Wheel guards of Type A 70
AA.2 Wheel guards of Type B 70
AA.3 Wheel guards of Type C 72
AA.4 Wheel guards of Type D 72
AA.5 Wheel guards of Type E 73
AA.6 Wheel guards of Type F 74
AA.7 Wheel guards of Type G 75

Annex BB (informative) Material and thickness of wheel guards

Annex CC (normative) Wheel type specifications

CC.1 General 78
CC.2 Wheel type 1 78
CC.3 Wheel type 4 78
CC.4 Wheel type 6 79
CC.5 Wheel type 11 80
CC.6 Wheel type 27 80
CC.7 Wheel type 28 81
CC.8 Wheel type 29 82
CC.9 Wheel type 41 82
CC.10 Wheel type 42 83

Bibliography

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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 2-3: Particular Requirements for Hand-Held Grinders, Disc-Type Polishers and Disc-Type Sanders. It is the First edition of CSA C22.2 No. 62841-2-3 and the First edition of UL 62841-2-3. This harmonized standard has been jointly revised on April 23, 2026. For this purpose, CSA Group and ULSE are issuing revision pages dated April 23, 2026.

This harmonized Standard is based on IEC Publication 62841-2-3: First edition, Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery – Safety – Part 2-3: Particular Requirements for Hand-Held Grinders, Disc-Type Polishers and Disc-Type Sanders, issued April 2020, as revised by Corrigendum 1, issued April 2021, Amendment 1, issued October 2024 and Corrigendum 1, issued December 2024. IEC publication 62841-2-3 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. 62841-2-3 is to be used in conjunction with the First edition of CAN/CSA-C22.2 No. 62841-1. The requirements for hand-held grinders, disc-type polishers and disc-type sanders are contained in this Part 2 Standard and CAN/CSA-C22.2 No. 62841-1. Requirements of this Part 2-3 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. 62841-2-3, the CAN/CSA-C22.2 No. 62841-1 subclause applies.

UL Standard 62841-2-3 is to be used in conjunction with the First edition of UL 62841-1. The requirements for hand-held grinders, disc-type polishers and disc-type sanders are contained in this Part 2-3 Standard and UL 62841-1. Requirements of this Part 2-3 Standard, where stated, amend the requirements of UL 62841-1. Where a particular subclause of UL 62841-1 is not mentioned in UL 62841-2-3, the UL 62841-1 subclause applies.

Level of harmonization

This Standard adopts the IEC text with national differences.

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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.

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.

IEC Copyright

For CSA Group, the text, figures, and tables of International Electrotechnical Commission Publication 62841-2-3, Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery – Safety – Part 2-3: Particular Requirements for Hand-Held Grinders, Disc-Type Polishers and Disc-Type Sanders, copyright 2024, 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 2-3: Particular Requirements for Hand-Held Grinders, Disc-Type Polishers and Disc-Type Sanders, UL 62841-2-3 Standard should be submitted to ULSE.

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NATIONAL DIFFERENCES

National Differences from the text of International Electrotechnical Commission (IEC) Publication IEC 62841-2-3 Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery – Safety – Part 2-3: Particular Requirements for Hand-Held Grinders, Disc-Type Polishers and Disc-Type Sanders, copyright 2024 , 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.

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.

Modification / Modify - A modification is an altering of the existing base IEC text such as the addition, replacement or deletion of certain words or the replacement of an entire clause, subclause, table, figure, or annex of the base IEC text.

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FOREWORD

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS, TRANSPORTABLE TOOLS AND LAWN AND GARDEN MACHINERY – SAFETY – Part 2-3: Particular requirements for hand-held grinders, disc-type polishers and disc-type sanders

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.

This consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.

IEC 62841-2-3 edition 1.1 contains the first edition (2020-04) [documents 116/444/FDIS and 116/454/RVD], its corrigendum 1 (2021-04) and its amendment 1 (2024-10) [documents 116/813/FDIS and 116/832/RVD].

This Final version does not show where the technical content is modified by amendment 1. A separate Redline version with all changes highlighted is available in this publication.

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International Standard IEC 62841-2-3 has been prepared by IEC technical committee 116: Safety of motor-operated electric tools

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

This Part 2-3 is to be used in conjunction with the first edition of IEC 62841-1:2014.

This Part 2-3 supplements or modifies the corresponding clauses in IEC 62841-1, so as to convert it into the IEC Standard: Particular requirements for hand-held grinders, disc-type polishers and disc-type sanders.

Where a particular subclause of Part 1 is not mentioned in this Part 2-3, that subclause applies as far as relevant. Where this standard states “addition”, “modification” or “replacement”, the relevant text in Part 1 is to be adapted accordingly.

The following print types are used:

– requirements: in roman type

– *test specifications: in italic type;*

– notes: in small roman type.

The terms in **bold typeface** in the text are defined in Clause 3

Subclauses, notes and figures which are additional to those in Part 1 are numbered starting from 101.

A list of all parts of the IEC 62841 series, 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 and its amendment will remain unchanged until the stability date indicated on the IEC web site 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 7th paragraph of 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.

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102DV DE ***Modification: Replace the 8th paragraph of the IEC Foreword with the following:***

Words in SMALL ROMAN CAPS in the text are defined in Clause 3.

103DV DE ***Modification: Add the following to the IEC Foreword:***

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

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ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS, TRANSPORTABLE TOOLS AND LAWN AND GARDEN MACHINERY – SAFETY – Part 2-3: Particular requirements for hand-held grinders, disc-type polishers and disc-type sanders

1 Scope

This clause of Part 1 is applicable, except as follows:

Addition:

This document applies to hand-held GRINDERS, DISC-TYPE POLISHERS and DISC-TYPE SANDERS, including angle, straight and vertical tools, intended for use on various materials except magnesium, with a RATED CAPACITY not exceeding 230 mm. For GRINDERS, the RATED NO-LOAD SPEED does not exceed a peripheral speed of the ACCESSORY of 80 m/s at RATED CAPACITY.

This document also applies to CONCRETE SURFACE GRINDERS for use on various masonry materials with a RATED CAPACITY not exceeding 230 mm.

This document does not apply to GRINDERS intended to be fitted with an ACCESSORY other than a bonded abrasive product or a DIAMOND WHEEL.

This document does not apply to GRINDERS intended to be fitted with DIAMOND WHEELS with

– peripheral gaps exceeding 10 mm; or

– a positive rake angle.

This document does not apply to dedicated cut-off machines.

NOTE 101 It is planned that a document on cut-off machines will be published.

1DV.1 DE *Modification: Replace NOTE 101 with the following:*

NOTE 101 Cut-off machines are covered by IEC 62841-2-22.

This document does not apply to orbital polishers and orbital sanders.

NOTE 102 Orbital polishers and orbital sanders are covered by IEC 62841-2-4.

This document does not apply to die grinders.

NOTE 103 It is planned that a document on die grinders will be published.

1DV.2 DE *Modification: Replace NOTE 103 with the following:*

NOTE 103 Die grinders are covered by IEC 62841-2-23.

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2 Normative references

This clause of Part 1 is applicable, except as follows:

Addition:

ISO 525:2020, *Bonded abrasive products – Shape types, designation and marking*

3 Terms and definitions

This clause of Part 1 is applicable, except as follows:

Additional definitions:

3.101
BLOTTER
thin piece of an easily compressible material, between the abrasive product and FLANGE

3.102
DIAMOND WHEEL
metal wheel with continuous or segmented diamond abrasives

3.102.1
DIAMOND CUTTING WHEEL
metal wheel with the abrasives located on the periphery of the wheel

3.102.2
DIAMOND GRINDING WHEEL
metal wheel with abrasives located on the face of the wheel

3.103
DISC-TYPE POLISHER
tool equipped with a rotating flexible disc or pad intended for polishing

Note 101 to entry: Polishing is an operation to produce a smooth or shiny surface.

3.104
DISC-TYPE SANDER
tool, constructed like a GRINDER, intended for sanding

Note 101 to entry: Sanding is an operation to remove material using flexible abrasive material, such as sandpaper.

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

3.105.1
UNRECESSED (FLANGE)
FLANGE fixed to the machine spindle having an UNRECESSED flat surface against which a threaded hole abrasive product is screwed, e.g. a cup wheel, a cone or a plug

3.105.2
INNER FLANGE
flange which contacts and provides support to the back side of the wheel and is located on the spindle between wheel and tool

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