



IEC 62841-2-9

Edition 1.1 2025-02
CONSOLIDATED VERSION

INTERNATIONAL STANDARD

**Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety –
Part 2-9: Particular requirements for hand-held tappers and threaders**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 25.140.20

ISBN 978-2-8327-0249-9

Warning! Make sure that you obtained this publication from an authorized distributor.

CONTENTS

| | |
|--|----|
| FOREWORD | 4 |
| 1 Scope | 6 |
| 2 Normative references | 6 |
| 3 Terms and definitions | 6 |
| 4 General requirements | 6 |
| 5 General conditions for the tests | 6 |
| 6 Radiation, toxicity and similar hazards | 7 |
| 7 Classification | 7 |
| 8 Marking and instructions | 7 |
| 9 Protection against access to live parts | 8 |
| 10 Starting | 8 |
| 11 Input and current | 8 |
| 12 Heating | 8 |
| 13 Resistance to heat and fire | 9 |
| 14 Moisture resistance | 9 |
| 15 Resistance to rusting | 9 |
| 16 Overload protection of transformers and associated circuits | 9 |
| 17 Endurance | 9 |
| 18 Abnormal operation | 9 |
| 19 Mechanical hazards | 10 |
| 20 Mechanical strength | 10 |
| 21 Construction | 11 |
| 22 Internal wiring | 11 |
| 23 Components | 11 |
| 24 Supply connection and external flexible cords | 11 |
| 25 Terminals for external conductors | 11 |
| 26 Provision for earthing | 12 |
| 27 Screws and connections | 12 |
| 28 Creepage distances, clearances and distances through insulation | 12 |
| Annexes | 14 |
| Annex I (informative) Measurement of noise and vibration emissions | 14 |
| Annex K (normative) Battery tools and battery packs | 17 |
| Bibliography | 18 |
| | |
| Figure 101 – Threader with support device | 12 |
| Figure 102 – Set-up for testing the support device | 13 |
| Figure I.101 – Position of transducers for tappers | 15 |
| Figure I.102 – Position of transducers for threaders | 16 |
| | |
| Table 101 – Load torque | 9 |
| Table 4 – Required performance levels | 10 |
| Table I.101 – Operating conditions for tappers and threaders | 15 |

Table 4 – Required performance levels 17

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS,
TRANSPORTABLE TOOLS AND LAWN AND GARDEN MACHINERY –
SAFETY –****Part 2-9: Particular requirements for hand-held tappers and threaders**

FOREWORD

- 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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 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 62841-2-9 edition 1.1 contains the first edition (2015-01) [documents 116/199/FDIS and 116/212/RVD], its corrigendum 1 (2015-10) and its amendment 1 (2025-02) [documents 116/861/FDIS and 116/876/RVD].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 62841-2-9 has been prepared by IEC technical committee 116: Safety of motor-operated electric tools.

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

This Part 2-9 is to be used in conjunction with the first edition of IEC 62841-1 (2014).

This Part 2-9 supplements or modifies the corresponding clauses in IEC 62841-1, so as to convert it into the IEC Standard: Particular requirements for hand-held tappers and threaders.

Where a particular subclause of Part 1 is not mentioned in this Part 2-9, that subclause applies as far as reasonable. 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 defined in Clause 3 are printed in **bold typeface**.

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 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.

ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS, TRANSPORTABLE TOOLS AND LAWN AND GARDEN MACHINERY – SAFETY –

Part 2-9: Particular requirements for hand-held tappers and threaders

1 Scope

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

Addition:

This standard applies to hand-held **tappers** and **threaders**.

2 Normative references

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

Addition:

ISO 7-1:1994, *Pipe threads where pressure-tight joints are made on the threads – Part 1: Dimensions, tolerances and designation*

ISO 65:1981, *Carbon steel tubes suitable for screwing in accordance with ISO 7-1*

CONTENTS

| | |
|--|----|
| FOREWORD | 4 |
| 1 Scope | 6 |
| 2 Normative references | 6 |
| 3 Terms and definitions | 6 |
| 4 General requirements | 6 |
| 5 General conditions for the tests | 6 |
| 6 Radiation, toxicity and similar hazards | 7 |
| 7 Classification | 7 |
| 8 Marking and instructions | 7 |
| 9 Protection against access to live parts | 8 |
| 10 Starting | 8 |
| 11 Input and current | 8 |
| 12 Heating | 8 |
| 13 Resistance to heat and fire | 9 |
| 14 Moisture resistance | 9 |
| 15 Resistance to rusting | 9 |
| 16 Overload protection of transformers and associated circuits | 9 |
| 17 Endurance | 9 |
| 18 Abnormal operation | 9 |
| 19 Mechanical hazards | 10 |
| 20 Mechanical strength | 10 |
| 21 Construction | 11 |
| 22 Internal wiring | 11 |
| 23 Components | 11 |
| 24 Supply connection and external flexible cords | 11 |
| 25 Terminals for external conductors | 11 |
| 26 Provision for earthing | 11 |
| 27 Screws and connections | 12 |
| 28 Creepage distances, clearances and distances through insulation | 12 |
| Annexes | 14 |
| Annex I (informative) Measurement of noise and vibration emissions | 14 |
| Annex K (normative) Battery tools and battery packs | 17 |
| Bibliography | 18 |
| | |
| Figure 101 – Threader with support device | 12 |
| Figure 102 – Set-up for testing the support device | 13 |
| Figure I.101 – Position of transducers for tappers | 15 |
| Figure I.102 – Position of transducers for threaders | 16 |
| | |
| Table 101 – Load torque | 9 |
| Table 4 – Required performance levels | 10 |
| Table I.101 – Operating conditions for tappers and threaders | 15 |

Table 4 – Required performance levels 17

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS,
TRANSPORTABLE TOOLS AND LAWN AND GARDEN MACHINERY –
SAFETY –****Part 2-9: Particular requirements for hand-held tappers and threaders**

FOREWORD

- 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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 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 62841-2-9 edition 1.1 contains the first edition (2015-01) [documents 116/199/FDIS and 116/212/RVD], its corrigendum 1 (2015-10) and its amendment 1 (2025-02) [documents 116/861/FDIS and 116/876/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.

International Standard IEC 62841-2-9 has been prepared by IEC technical committee 116: Safety of motor-operated electric tools.

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

This Part 2-9 is to be used in conjunction with the first edition of IEC 62841-1 (2014).

This Part 2-9 supplements or modifies the corresponding clauses in IEC 62841-1, so as to convert it into the IEC Standard: Particular requirements for hand-held tappers and threaders.

Where a particular subclause of Part 1 is not mentioned in this Part 2-9, that subclause applies as far as reasonable. 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 defined in Clause 3 are printed in **bold typeface**.

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 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.

ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS, TRANSPORTABLE TOOLS AND LAWN AND GARDEN MACHINERY – SAFETY –

Part 2-9: Particular requirements for hand-held tappers and threaders

1 Scope

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

Addition:

This standard applies to hand-held **tappers** and **threaders**.

2 Normative references

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

Addition:

ISO 7-1:1994, *Pipe threads where pressure-tight joints are made on the threads – Part 1: Dimensions, tolerances and designation*

ISO 65:1981, *Carbon steel tubes suitable for screwing in accordance with ISO 7-1*

5.17 Addition:

*The mass of a **tapper/threader** includes the auxiliary handle, if any. Any support device as illustrated in Figure 101 for a **threader** is not regarded as part of the tool.*

6 Radiation, toxicity and similar hazards

This clause of Part 1 is applicable.

7 Classification

This clause of Part 1 is applicable.

8 Marking and instructions

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

8.1 Addition:

In addition the tool shall have the following marking:

- maximum diameter, in millimetres (for **tappers**) or in inches (for **threaders**), of the thread which can be cut.

NOTE According to the International System of Units, only SI units should be used. Nevertheless, some pipe diameters and threads are still specified in inches internationally.

For **tappers**, the diameter shall refer to a unified ISO thread to be cut into steel having a tensile strength of 390 N/mm² and a thickness of twice the thread diameter, unless otherwise indicated on the tool.

For **threaders**, the diameter shall refer to a taper style thread in accordance with ISO 7-1 to be cut on steel tubes in accordance with ISO 65, unless otherwise indicated on the tool.

8.14.1 Addition:

For **threaders**, the additional safety instructions as specified in 8.14.1.101 shall be given. This part may be printed separately from the “General Power Tool Safety Warnings”.

8.14.1.101 Threader safety warnings

- a) **Always use the support device provided with the tool.** *Loss of control during operation can result in personal injury.*
- b) **Keep sleeves and jackets buttoned while operating the tool. Do not reach across the tool or pipe.** *Clothing can be caught by the pipe or the tool resulting in entanglement.*
- c) **Only one person must control the work process and tool operation.** *Additional people involved in the process may result in unintended operation and personal injury.*
- d) **Keep floors dry and free of slippery materials such as oil.** *Slippery floors invite accidents.*

8.14.2 a) Addition:

101) for **threaders**: instructions for mounting and use of the support device.

8.14.2 b) Addition:

101) for **threaders**: instructions to always use the support device supplied with the tool;