

# INTERNATIONAL STANDARD

**Electric motor-operated tools – Dust measurement procedure –  
Part 2-5: Particular requirements for hand-held circular saws**

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INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**ELECTRIC MOTOR-OPERATED TOOLS –  
DUST MEASUREMENT PROCEDURE –**
**Part 2-5: Particular requirements for hand-held circular saws**

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IEC 63241-2-5 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
116/819/FDIS	116/838/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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

This document is to be used in conjunction with the first edition of IEC 63241-1:2023.

This document supplements or modifies the corresponding clauses in IEC 63241-1, so as to convert it into the IEC Standard: *Electric motor-operated tools – Dust measurement procedure – Particular requirements for hand-held circular saws*.

Where a particular subclause of IEC 63241-1 is not mentioned in this document, that subclause applies as far as relevant. Where this document states "addition", "modification" or "replacement", the relevant text in IEC 63241-1 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, tables and figures which are additional to those in IEC 63241-1 are numbered starting from 101.

A list of all parts in the IEC 63241 series, published under the general title *Electric motor-operated tools – Dust measurement procedure*, 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](http://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 TOOLS – DUST MEASUREMENT PROCEDURE –

## Part 2-5: Particular requirements for hand-held circular saws

### 1 Scope

IEC 63241-1:2023, Clause 1 is applicable, except as follows:

*Addition:*

This document applies to **circular saws**.

### 2 Normative references

IEC 63241-1:2023, Clause 2 is applicable, except as follows:

*Addition:*

IEC 63241-1:2023, *Electric motor-operated tools – Dust measurement procedure – Part 1: General requirements*

### 3 Terms and definitions

IEC 63241-1:2023, Clause 3 is applicable, except as follows:

*Addition:*

#### 3.101

##### **circular saw**

tool intended for cutting various materials with a rotating toothed blade

### 4 Test procedure

IEC 63241-1:2023, Clause 4 is applicable, except as follows:

#### 4.3 Operating conditions

*Addition:*

**Circular saws** intended to cut wood are tested under load observing the conditions shown in Table 101.

**Table 101 – Operating conditions for circular saws intended to cut wood**

<b>Material and set-up</b>	<p>Particleboard with the following specifications:</p> <ul style="list-style-type: none"> <li>• Density: 610 kg/m<sup>3</sup>;</li> <li>• Bending Strength (MOR): 11,0 N/mm<sup>2</sup>;</li> <li>• Modules of elasticity (MOE): 1 600 N/mm<sup>2</sup>;</li> <li>• Internal bond strength: 0,35 N/mm<sup>2</sup></li> </ul> <p>with ±10 % tolerance and dimensions of (19 ± 1) mm thick, (400 ± 2) mm width and any length <i>a</i> (see Figure 101).</p> <p>NOTE 1 Particleboard according to EN 312 P2, ISO 16893 P-FN REG or ANSI A208.1 Grade M-S fulfils these requirements.</p> <p>The particleboard is mounted horizontally on a bench with a working height matching the requirement for the vertical distance between the upper surface of the workpiece and the intake openings of the <b>dust samplers</b> as specified in 4.2.</p> <p>NOTE 2 Particleboard is also known as chipboard.</p>
<b>Orientation and operation</b>	<p>Sawing of approximately 10 mm wide strips, over the width of (400 ± 2) mm. A rip fence, if provided with the tool, shall be used to perform the cuts. If a rip fence is not provided with the tool, the cuts shall be performed using a guide rail. All available handles shall be used as specified in the manufacturer's instructions.</p> <p>During the test, the operator shall be positioned as illustrated in Figure 101. The test set-up illustrated in Figure 101 is appropriate for tools for right-handed use. For tools for left-handed use, the test set-up may be mirror-inverted.</p>
<b>Tool bit/settings</b>	<p>New saw blade as specified by the manufacturer for sawing chipboard at the beginning of each of the three tests.</p> <p>Speed setting devices, if any, shall be adjusted to the setting specified for sawing chipboard.</p> <p>Cutting depth: (30 ± 1) mm, or as close as possible to this value.</p>
<b>Feed force</b>	<p>The feed force applied to the tool shall be sufficient to ensure stable operation with good performance.</p>
<b>Test</b>	<p>During the working time of one test cycle, 30 cuts as specified above are performed equally distributed over the working time.</p> <p>If the above cannot be achieved within 10 min, the time is extended to allow the required number of strips to be cut.</p>

## 5 Instrumentation

IEC 63241-1:2023, Clause 5 is applicable.

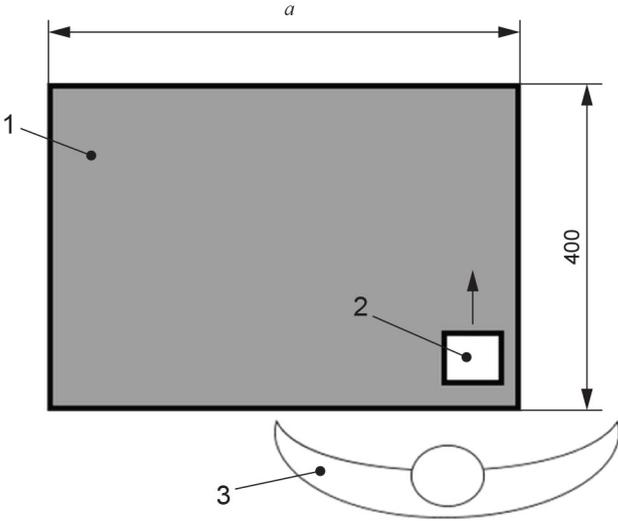
## 6 Information to be reported

IEC 63241-1:2023, Clause 6 is applicable, except as follows:

*Replacement of item o):*

- o) information about the extension of the cycle time in case 30 strips cannot be achieved within 10 min.

Dimensions in millimetres



**Key**

- 1 workpiece
- 2 tool
- 3 operator
- $a$  length of the workpiece

**Figure 101 – Orientation of workpiece, tool and operator during the tests**

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