

Safety of hand-held electric motor operated tools —

Part 2-5: Particular requirements for circular saws and circular knives

The European Standard EN 50144-2-5:1999 has the status of a
British Standard

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National foreword

This British Standard is the official English language version of EN 50144-2-5:1999. It supersedes BS EN 50144-2-5:1996 which will be withdrawn on 2001-12-01.

The UK participation in its preparation was entrusted by Technical Committee CPL/61, Safety of household and similar electrical appliances, to Subcommittee CPL/61/6, Portable motor operated tools, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 18, an inside back cover and a back cover.

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English version

Safety of hand-held electric motor operated tools
Part 2-5: Particular requirements for circular saws and circular knives

Sécurité des outils électroportatifs à
moteur
Partie 2-5: Règles particulières pour les
scies circulaires et les couteaux circulaires

Sicherheit handgeführter
motorbetriebenen Elektrowerkzeugen
Teil 2-5: Besondere Anforderungen an
Kreissägen und Kreismesser

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

This European Standard has been prepared by Technical Committee TC 61F, Hand-held and transportable electric motor operated tools. The text of the draft was submitted to the Unique Acceptance Procedure (UAP) in April 1994 and was approved by CENELEC as EN 50144-2-5 on 1995-03-06.

A draft for an amendment was submitted to UAP in April 1994 and was approved by CENELEC on 1995-03-06 for inclusion into the European Standard.

A further amendment was submitted to UAP in May 1996 and was approved by CENELEC as amendment A1 to EN 50144-2-5 on 1996-12-09.

Amendments to fulfil the essential requirements of the Machinery Directive were submitted to the formal vote in January 1998 and were approved by CENELEC on 1998-08-01 for inclusion, together with the earlier amendment, into a second edition of EN 50144-2-5.

This European Standard supersedes EN 50144-2-5:1996.

The following dates were fixed:

- latest date by which the EN has to be implemented
at a national level by publication of an identical
national standard or by endorsement (dop) 2000-06-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2001-12-01

This standard is divided into two parts:

Part 1: General requirements which are common to most hand-held electric motor operated tools (for the purpose of this standard referred to simply as tools).

Part 2: Requirements for particular types of tool which either supplement or modify the requirements given in Part 1 to account for the particular hazards and characteristics of these specific tools.

This European Standard has been prepared under a mandate given to CEN/CENELEC by the European Commission and the European Free Trade Association and supports the essential health and safety requirements of the Machinery Directive.

Compliance with the clauses of Part 1 together with this Part 2 provides one means of conforming with the essential health and safety requirements of the Directive.

For noise and vibration this standard covers the requirements for their measurement, the provision of information arising from these measurements and the provision of information about the personal protective equipment required. Specific requirements for the reduction of the risk arising from noise and vibration through the design of the tool are not given as this reflects the current state of the art. As with any standard, technical progress will be kept under review so that any developments can be taken into account.

CEN TC/255 is producing standards for non electrically driven circular saws (EN 792-12)

Warning: Other requirements and other EC Directives can be applicable to the products falling within the scope of this standard.

This standard follows the overall requirements of EN 292-1 and EN 292-2.

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

NOTE In this European Standard the following print types are used:

- Requirements proper;
- *Test specifications*;
- Explanatory matter.

Contents

1	Scope.....	4
2	Definitions.....	4
3	General requirements.....	5
4	General conditions for the tests.....	5
5	Rating	5
6	Classification.....	5
7	Marking and information for use.....	6
8	Protection against electric shock.....	6
9	Starting	6
10	Input and current	6
11	Heating	6
12	Leakage current.....	6
13	Environmental requirements.....	7
14	Moisture resistance	8
15	Insulation resistance and electric strength	8
16	Endurance	8
17	Abnormal operation	8
18	Mechanical hazards.....	8
19	Mechanical strength	12
20	Construction.....	12
21	Components	12
22	Internal wiring	12
23	Supply connection and external flexible cables and cords.....	12
24	Terminals for external conductors	12
25	Provision for earthing.....	13
26	Screws and connections.....	13
27	Creepage distances, clearances and distances through insulation	13
28	Resistance to heat, fire and tracking	13
29	Resistance to rusting	13
30	Radiation.....	13
	Annexes	18

1 Scope

This clause of Part 1 is applicable except as follows:

1.1 Addition:

This standard applies to all types of circular saws for cutting wood and similar materials and to circular knives.

These requirements do not cover circular saws and circular knives when mounted in a support for use as fixed tools.

This standard does not give requirements for the design of the tool for the reduction of the risk arising from noise and vibration.

2 Definitions

This clause of Part 1 is applicable except as follows:

2.2.18 Replacement:

2.2.18 normal load: For circular saws the load obtained when the circular saw is operated continuously with the saw blade in the vertical position, the load being such that the input in watts is equal to:

$0,25 \ s \ \sqrt{n_0}$ For saws with a.c. asynchronous induction motors.

$0,2 \ s \ \sqrt{n_0}$ For other saws designed for cutting depths exceeding 55 mm.

$0,13 \ s \ \sqrt{n_0}$ For other saws designed for cutting depths not exceeding 55 mm, and for multi-purpose tools which can be fitted with circular-saw accessories.

Where s is the maximum cutting depth, in millimetres, and n_0 the no-load speed of the saw blade, in revolutions per minute, after the tool has been operating for a period of 15 min at no-load, at rated voltage or at the upper limit of the rated voltage range.

Additional definitions:

2.2.101 circular saw with outer pendulum guard: A tool the lower guard of which, for operation, swings around the upper fixed guard (see Figure 101).

2.2.102 circular saw with inner pendulum guard: A tool the lower guard of which, for operation, swings inside the upper fixed guard (see Figure 102).

2.2.103 circular saw with tow-guard: A tool the lower guard of which, for operation, slides along the upper fixed guard (see Figure 103).

2.2.104 plunge type circular saw: A tool having only a fixed upper guard into which the saw blade retracts when not in use (see Figure 104).

2.2.105 guide plate: Part constituting the plane of reference on the material to be cut.

2.2.106 fixed guard: Cover linked to the motor unit which prevents access to the part of the blade situated above the guide plate.

2.2.107 movable guard: Cover which, in the rest position, prevents access to the part of the blade which is not covered by the fixed guard and which, in most cases, is situated below the guide plate. Plunge type circular saws have only one guard into which the saw blade retracts at the end of the sawing operation.

2.2.108 riving knife: Metal part placed in the plane of the saw blade which prevents the wood from tightening onto the rear part of the saw blade and thus prevents the backward movement of the tool or jamming of the saw blade.

3 General requirements

This clause of Part 1 is applicable.

4 General conditions for the tests

This clause of Part 1 is applicable.

5 Rating

This clause of Part 1 is applicable.

6 Classification

This clause of Part 1 is applicable.

7 Marking and information for use

This clause of Part 1 is applicable except as follows:

7.1 Addition:

Circular saws and circular knives shall be marked with an indication of the direction of rotation. This shall be clearly indicated by a raised or sunk arrow on the fixed guard or by any other means no less visible and indelible.

7.13.1 Addition:

For circular saws, the instruction sheet shall also include:

- information on the correct use of dust collection equipment;
- the maximum and minimum diameter, the thickness range and other characteristics of the blades which can be fitted to the tool;
- the rated no-load speed of the working spindle.

7.13.2 Addition:

Instructions shall also include the substance of the following:

- Do not use blades which are deformed or cracked.
- Do not use blades made of high speed steel.
- Do not use blades which do not comply with the characteristics specified in these instructions.
- Do not stop the blades by lateral pressure on the disc.