Irish Standard
I.S. EN 60745-2-5:2010

Hand-held motor-operated electric tools - Safety -- Part 2-5: Particular requirements for circular saws (IEC 60745-2-5:2010 (MOD))

I.S. EN 60745-2-5:2010

Incorporating amendments/corrigenda issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces:	*This document is based on:*	*Published:*
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I.S. EN 60745-2-5:2010

EUROPEAN STANDARD

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EN 60745-2-5

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Supersedes EN 60745-2-5:2007 + A11:2009

English version

Hand-held motor-operated electric tools - Safety - Part 2-5: Particular requirements for circular saws

(IEC 60745-2-5:2010, modified)

Outils électroportatifs à moteur - Sécurité - Partie 2-5: Règles particulières pour les scies circulaires (CEI 60745-2-5:2010, modifiée)

Handgeführte motorbetriebene Elektrowerkzeuge - Sicherheit - Teil 2-5: Besondere Anforderungen für Kreissägen (IEC 60745-2-5:2010, modifiziert)

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 60745-2-5:2010 E

Foreword

The text of document 116/41/FDIS, future edition 5 of IEC 60745-2-5, prepared by TC 116, Safety of hand-held motor-operated electric tools, was submitted to the IEC-CENELEC parallel vote.

A draft amendment, which covers common modifications towards future IEC 60745-2-5 (116/41/FDIS), was prepared by CENELEC Technical committee TC 116, Safety of hand-held motor operated electric tools. It was submitted to the formal vote.

The combined texts were approved by CENELEC as EN 60745-2-5 on 2010-10-01.

This European Standard supersedes EN 60745-2-5:2007 + A11:2009.

Main changes include: in Clause 17, Endurance: introduction of endurance tests in practical use for the guards of all types of saws; in Clause 19, Mechanical hazards: clarifications and editorial improvement in respect to the guarding; and in Annex M, Safety of working stands for operation with hand-held motor-operated electric tools: editorial improvements.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

– latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2011-10-01
– latest date by which the national standards conflicting with the amendment have to be withdrawn	(dow)	2013-10-01

This European 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) which could come within the scope of this standard;

Part 2: Requirements for particular types of tools 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 Mandate M/396 given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive 2006/42/EC. See Annex ZZ.

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 concerned.

CEN/TC 255 is producing standards for non-electric 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 ISO 12100-1 and EN ISO 12100-2.

This Part 2-5 is to be used in conjunction with EN 60745-1:2009. When this standard states "addition", "modification" or "replacement", the relevant text in Part 1 is to be adapted accordingly.

Subclauses, tables and figures which are additional to those in Part 1 are numbered starting from 101; additional annexes are lettered AA, BB, etc.

Subclauses, tables and figures which are additional to those in IEC 60745-2-5:2010 are prefixed “Z”.

Annex ZZ has been added by CENELEC.

NOTE In this standard the following print types are used:
- requirements proper; in roman type
- *test specifications: in italic type;*
- explanatory matter: in smaller roman type.

Endorsement notice

The text of the International Standard IEC 60745-2-5:2010 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

2 Normative references

Replace *the text by:*

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

Addition:

EN 847-1:1997 [1)], *Tools for woodworking – Safety requirements – Part 1: Milling tools and circular saw blades*

6 Void

Replace *by:*

6 Environmental requirements

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

6.1.2.4 *Modification:*

Circular saws are suspended in such a way as to correspond to normal use.

6.1.2.5 *Modification:*

Circular saws are tested at no-load.

6.2 Vibration

6.2.4.2 Location of measurement

Addition:

Figure Z101 shows the positions on the main handle and the auxiliary handle, if applicable.

6.2.6.3 Operating conditions

Addition:

Circular saws intended to cut wood are tested under load observing the conditions shown in Table Z101.

NOTE The values for sawing wood are also representative for sawing plastics.

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1) Superseded by EN 847-1:2005, *Tools for woodworking – Safety requirements – Part 1: Milling tools and circular saw blades*.

Circular saws intended to cut metal are tested under load observing the conditions shown in Table Z102.

Circular saws with speed setting devices shall be adjusted to the settings to cut the work piece material required in the test.

Table Z101 – Operating conditions for circular saws cutting wood

Orientation	Cutting a horizontal piece of chipboard with minimum dimensions 800 mm x 600 mm and a thickness depending on maximum cutting depth of the circular saw: - maximum cutting depth ≤ 40 mm: chipboard thickness 19 mm; - maximum cutting depth > 40 mm: chipboard thickness 38 mm. The board shall be firmly fixed by screws, clamps air cylinders or the like to a test bench using resilient material. It shall be mounted so that it does not have any significant resonance in the frequency range that can influence the test result. The board excess end shall be 250 mm from the clamped area and shall be readjusted at the beginning of each series of tests.
Tool bit	New blade as recommended by the manufacturer for cutting chipboard.
Feed force	Just sufficient to cut at a brisk pace. Equal force shall be applied to both handles, if applicable. Excessive grip forces shall be avoided.
Test cycle	One test cycle is given by cutting off one approximately 10 mm wide strip (set by rip fence if available) across the 600 mm width of the chipboard. The measurement starts when the blade enters the wood and finishes when the blade leaves the wood.

Table Z102 – Operating conditions for circular saws cutting metal

Orientation	Cutting a horizontal piece of sheet aluminium with the minimum length of 600 mm, a width of 300 mm and a thickness of 3 mm. The work piece shall be supported on resilient material and firmly fixed by screws, clamps, air cylinders or the like to a test rig. The metal sheet excess shall be at least 100 mm from the clamped area and shall be readjusted at the beginning of each series of tests, which consists of five test cycles.
Tool bit	New saw blade as specified for sawing aluminium.
Feed force	Just sufficient to cut at a brisk pace. Equal force shall be applied to both handles, if applicable. Excessive grip forces shall be avoided.
Test cycle	Cutting off an approximately 10 mm wide strip across the 300 mm width of the metal sheet. Measurement starts when the saw blade enters the metal sheet and stops when the saw leaves the metal sheet.

6.2.7.1 Reported vibration value

Addition:

If more than one operating mode was measured, the result a_h for each operating mode applicable shall be reported.

$a_{h,W}$ = mean vibration “cutting wood”

$a_{h,M}$ = mean vibration “cutting metal”

6.2.7.2 Declaration of the vibration total value

Addition:

The vibration total value a_h of the handle with the highest emission and the uncertainty K shall be declared

– for saws for cutting wood
the value of $a_{h,W}$, with the work mode description “cutting wood”;

– for saws for cutting metal
the value of $a_{h,M}$, with the work mode description “cutting metal”

8 Marking and instructions

8.12.2 a) ***Add*** *to the addition:*

Z101) For tools intended to cut wood, instruction on the correct use of the dust collection system

Z102) For tools intended to cut wood, instruction to wear a dust mask

Z103) Instruction to only use saw blades recommended

Z104) Instruction to always wear hearing protection

8.12.2 b) ***Add*** *to the addition:*

Z101) Maximum cutting depth

19 Mechanical hazards

Add *after 19.106:*

19.Z101 The saw blade(s) delivered with the tool shall comply with their relevant product standards (e.g. saw blades intended for wood shall comply with EN 847-1).

Compliance is checked by inspection.

21 Construction

Add*:*

21.Z1 *Addition:*

Circular saws intended to cut wood are considered to be tools where a considerable amount of dust is produced.

Add *the following new figure:*

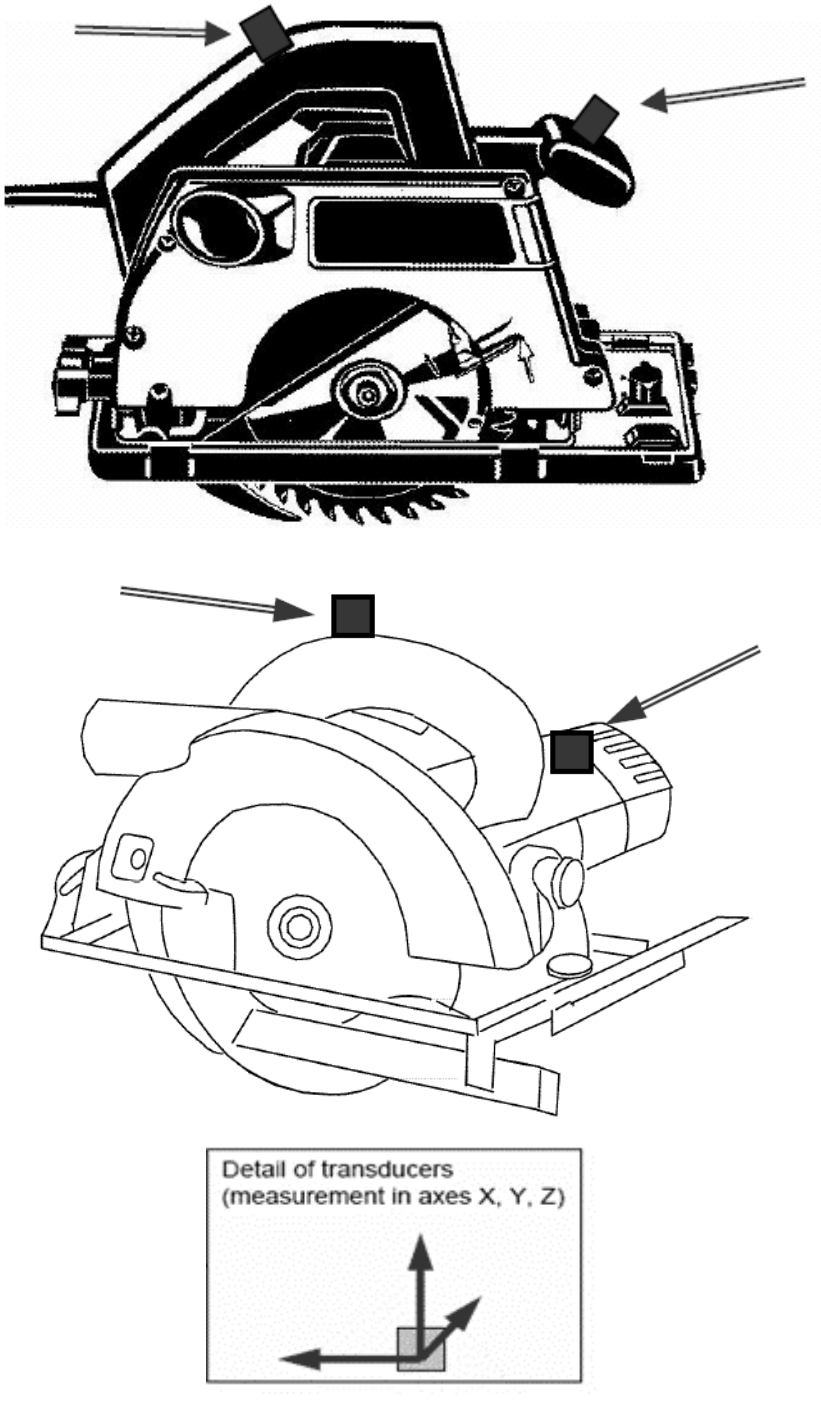

Figure Z101 – Positions of transducers for circular saws

Annex M
(normative)

Safety of working stands for operation with hand-held motor-operated electric tools

M.19.1.302.2.3 ***Replace*** *the last paragraph by:*

– *For riving knife mounted saw blade guards, the guard shall be subjected to a load of 5 N at the front edge of the guard as defined in Figure M.302. The maximum deflection shall not be more than 15 mm.*

– *For separately from riving knife mounted saw blade guards, the guard shall be subjected to a load of 20 N at the front edge of the guard as defined in Figure M.302. The maximum deflection shall not be more than 8,0 mm.*

***Add** the following annex:*

Annex ZZ
(informative)

Coverage of Essential Requirements of Directive 2006/42/EC

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers all relevant Essential Requirements as given in EC Directive 2006/42/EC (Machinery Directive).

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directives concerned.

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

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

HAND-HELD MOTOR-OPERATED ELECTRIC TOOLS – SAFETY –

Part 2-5: Particular requirements for circular saws

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.
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9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60745-2-5 has been prepared by IEC technical committee 116: Safety of hand-held motor-operated electric tools.

This fifth edition cancels and replaces the fourth edition published in 2006, of which it constitutes a technical revision.

Main changes include: in Clause 17, Endurance: introduction of endurance tests in practical use for the guards of all types of saws; in Clause 19, Mechanical hazards: clarifications and editorial improvement in respect to the guarding; and in Annex M, Safety of working stands for operation with hand-held motor-operated electric tools: editorial improvements.

The text of this standard is based on the following documents:

FDIS	Report on voting
116/41/FDIS	116/52/RVD

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

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

This Part 2-5 is to be used in conjunction with the fourth edition of IEC 60745-1, *Hand-held motor-operated electric tools – Safety – Part 1: General requirements*. It was established on the basis of the fourth edition (2006) of that standard.

NOTE 1 When “Part 1” is mentioned in this standard, it refers to IEC 60745-1.

This part 2 supplements or modifies the corresponding clauses of IEC 60745-1, so as to convert that publication into the IEC standard: Safety requirements for circular saws.

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

NOTE 2 The following numbering system is used:

– subclauses, items, tables and figures that are numbered starting from 101 are additional to those in Part 1;

– additional annexes are lettered AA, BB, etc.

NOTE 3 In this standard, the following print types are used:

– requirements: in roman type;

– *test specifications: in italic type*;

– notes: in smaller roman type.

A list of all parts of the IEC 60745 series, under the general title: *Hand-held motor-operated electric tools – Safety*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.