

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Hand-held motor-operated electric tools – Safety –
Part 2-4: Particular requirements for sanders and polishers other than disk type
(standards.iteh.ai)

Outils électroportatifs à moteur – Sécurité –
Partie 2-4: Règles particulières pour les ponceuses et les lustreuses autres que
du type à disque

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HAND-HELD MOTOR-OPERATED ELECTRIC TOOLS – SAFETY –

Part 2-4: Particular requirements for sanders and polishers other than disk type

FOREWORD

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International Standard IEC 60745-2-4 has been prepared by subcommittee 61F: Safety of hand-held motor-operated electric tools, of IEC technical committee 61: Safety of household and similar electrical appliances

Main changes include Clause 3: Definitions, introducing detailed definitions for the tools in the scope of this part 2, and Clause 17: Endurance, with clearer specifications. Subclause 20.101 has been removed, as requirements for tools with water supply are now covered by Part 1.

This consolidated version of IEC 60745-2-4 consists of the second edition (2002) [documents 61F/462/FDIS and 61F/486/RVD] and its amendment 1 (2008) [documents 61F/733/FDIS and 61F/753/RVD].

The technical content is therefore identical to the base edition and its amendment and has been prepared for user convenience.

It bears the edition number 2.1.

A vertical line in the margin shows where the base publication has been modified by amendment 1.

The French version of this standard has not been voted upon.

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

This Part 2-4 is to be used in conjunction with the third edition of IEC 60745-1: Safety of hand-held motor-operated electric tools – Part 1: General requirements. When this standard states “addition”, “modification” or “replacement”, the relevant text in Part 1 is to be adapted accordingly.

With amendment 1, this Part 2 is established on the basis of the fourth edition (2006) of IEC 60745-1, *Hand-held motor-operated electric tools – Safety – Part 1: General requirements*.

Main changes include editorial modifications to match with the fourth edition of IEC 60745-1, addition of a new safety warning to Clause 8: Marking and instructions, and clarifications in Annex K.

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

- requirements: in roman type;
- *test specifications: in italic type;*
- notes: in smaller roman type.

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

IEC 60745 consists of the following parts, under the general title *Hand-held motor-operated electric tools – Safety*:

- Part 1: General requirements
- Part 2-1: Particular requirements for drills and impact drills
- Part 2-2: Particular requirements for screwdrivers and impact wrenches
- Part 2-3: Particular requirements for grinders, polishers and disk-type sanders
- Part 2-4: Particular requirements for sanders and polishers other than disk type
- Part 2-5: Particular requirements for circular saws and circular knives
- Part 2-6: Particular requirements for hammers
- Part 2-7: Particular requirements for spray guns for non-flammable liquids
- Part 2-8: Particular requirements for shears and nibblers
- Part 2-9: Particular requirements for tappers
- Part 2-11: Particular requirements for reciprocating saws (jig and sabre saws)
- Part 2-12: Particular requirements for concrete vibrators
- Part 2-13: Particular requirements for chain saws
- Part 2-14: Particular requirements for planers
- Part 2-15: Particular requirements for hedge trimmers
- Part 2-16: Particular requirements for tackers
- Part 2-17: Particular requirements for routers and trimmers
- Part 2-18: Particular requirements for strapping tools
- Part 2-19: Particular requirements for jointers
- Part 2-20: Particular requirements for band saws
- Part 2-21: Particular requirements for drain cleaners

The committee has decided that the contents of the base publication and its amendments will remain unchanged until the maintenance result 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,
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- replaced by a revised edition, or
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HAND-HELD MOTOR-OPERATED ELECTRIC TOOLS – SAFETY –

Part 2-4: Particular requirements for sanders and polishers other than disk type

1 Scope

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

Addition:

This standard applies to sanders and polishers with the exception of all types of disc-type tools, which are covered by IEC 60745-2-3.

Tools covered by this standard include but are not limited to belt sanders, reciprocating sanders or polishers, orbital sanders or polishers, and random orbit sanders or polishers.

2 Normative references

This clause of Part 1 is applicable.

3 Terms and definitions [IEC 60745-2-4:2002+AMD1:2008 CSV](https://standards.iteh.ai/catalog/standards/sist/64103e94-f0b2-4cab-9c19-78869c2cf5d/iec-60745-2-4-2002amd1-2008-csv)

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

Additional definitions:

3.101

sander

tool intended to remove surface material using an abrasive medium

3.102

polisher

tool equipped with a disk or pad intended for polishing

3.103

belt sander

sander equipped with an endless abrasive belt

3.104

orbital sander or polisher (oscillating sander or polisher)

sander or polisher equipped with a plate, which performs an orbital oscillating motion parallel to the work surface

3.105

random orbit sander or polisher

sander or polisher equipped with a plate positioned eccentrically on the driving spindle which can rotate freely around its axis parallel to the work surface

3.106

reciprocating sander or polisher

sander or polisher equipped with a plate which performs a reciprocating motion parallel to the work surface

4 General requirements

This clause of Part 1 is applicable.

5 General conditions for the tests

This clause of Part 1 is applicable.

6 Void

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

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For belt sanders, the direction of rotation of the belt shall be indicated on the tool by an arrow, raised or sunk, or by any other means no less visible and indelible.

8.12.1.1 Addition:

- **Hold power tool by insulated gripping surfaces, because the belt may contact its own cord. Cutting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.**

NOTE The above safety warning applies only to belt sanders and may be omitted for other types of sanders.

9 Protection against access to live parts

This clause of Part 1 is applicable.

10 Starting

This clause of Part 1 is applicable.

11 Input and current

This clause of Part 1 is applicable.

12 Heating

This clause of Part 1 is applicable.

13 Leakage current

This clause of Part 1 is applicable.

14 Moisture resistance

This clause of Part 1 is applicable.

15 Electric strength

This clause of Part 1 is applicable.

16 Overload protection of transformers and associated circuits

This clause of Part 1 is applicable.

17 Endurance

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

17.2 Replacement of the fifth paragraph, except for belt sanders:

Orbital sanders and polishers, random orbit sanders and polishers, and reciprocating sanders and polishers are operated while the platen, fitted with abrasive paper in reverse position or a polishing bonnet as applicable, is resting under the weight of the sander or polisher on a steel plate. The abrasive paper should be replaced as required to avoid direct contact between platen and steel plate. These tools are only tested in the upright position where the platen is horizontal.

18 Abnormal operation

This clause of Part 1 is applicable.

19 Mechanical hazards

This clause of Part 1 is applicable.

20 Mechanical strength

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

20.5 Replacement of the first paragraph:

Belt sanders are likely to cut their own cord; therefore, handles and grasping surfaces, as specified in the instruction manual in accordance with 8.12.2 b), shall have adequate mechanical strength in order to provide insulation between the grasping area and the output shaft.

21 Construction

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

21.32 *Replacement of the first paragraph:*

Belt sanders are likely to cut their own cord; therefore, handles and grasping surfaces, as specified in the instruction manual in accordance with 8.12.2 b), shall be formed of insulating material or, when of metal, shall be either adequately covered by insulating material or their accessible parts shall be separated by insulating barrier(s) from accessible metal parts that may become live by the output shaft. These insulating barriers are not to be regarded as basic, supplementary, or reinforced insulation.

22 Internal wiring

This clause of Part 1 is applicable.

23 Components

This clause of Part 1 is applicable.

24 Supply connection and external flexible cords

This clause of Part 1 is applicable.

25 Terminals for external conductors

This clause of Part 1 is applicable.

26 Provision for earthing

This clause of Part 1 is applicable.

27 Screws and connections

This clause of Part 1 is applicable.

28 Creepage distances, clearances and distances through insulation

This clause of Part 1 is applicable.

29 Resistance to heat, fire and tracking

This clause of Part 1 is applicable.

30 Resistance to rusting

This clause of Part 1 is applicable.

31 Radiation, toxicity and similar hazards

This clause of Part 1 is applicable.

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