

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety –
Part 4-8: Particular requirements for shredders/chippers**

**Outils électroportatifs à moteur, outils portables et machines pour jardin et pelouses – Sécurité –
Partie 4-8: Exigences particulières pour les déchiqueteuses/machines à déchiqueter**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 4-8: Particular requirements for shredders/chippers

FOREWORD

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IEC 62841-4-8 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
116/853/FDIS	116/867/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. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

This document is to be used in conjunction with IEC 62841-1:2014.

This document supplements or modifies the corresponding clauses in IEC 62841-1, so as to convert it into the IEC Standard: Particular requirements for shredders/chippers.

Where a particular subclause of IEC 62841-1 is not mentioned in this document, that subclause applies as far as reasonable. Where this document states "addition", "modification" or "replacement", the relevant text in IEC 62841-1 is to be adapted accordingly.

The following print types are used:

- test specifications: *in italic type*;
- terms defined in Clause 3: **in bold type**;

Subclauses, notes, tables and figures which are additional to those in IEC 62841-1 are numbered starting from 101.

Subclauses, notes, tables and figures in Annex K and Annex L which are additional to those in the main body of this document are numbered starting from 301.

A list of all parts in the IEC 62841 series, published 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 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 ²⁰²⁵

- 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 4-8: Particular requirements for shredders/chippers

1 Scope

IEC 62841-1:2014, Clause 1, is applicable, except as follows.

Replacement of the third paragraph:

The **rated voltage** is not more than 250 V for single-phase a.c. or d.c. machines, and 480 V for three-phase a.c. machines.

Addition:

This document specifies safety requirements and their verification for the design and construction of hand fed, **shredders/chippers** with an integral electric motor, with or without vacuum assisted collection, which are designed to reduce organic material to smaller pieces and are used in a stationary position by an operator standing on the ground. This document applies to **shredders/chippers** with **feed intake openings** or **feed safety openings** that in total will fit into a square of 250 mm × 250 mm.

NOTE 101 The requirements for the measurement of the square of 250 mm × 250 mm are specified in 19.101.1.

In this document, **shredders/chippers** are referred to collectively as machine(s).

This document does not cover requirements for

- machines powered by combustion engines; or
- machines driven by an external power source; or
- machines with powered discharge intended to broadcast material or load vehicles; or
- machines with mechanically powered feed intake or **attachments**; or
- wood chippers for forestry, agriculture, horticulture and landscaping.

2 Normative references

IEC 62841-1:2014, Clause 2, is applicable, except as follows.

Addition:

IEC 60664-3:2016, *Insulation coordination for equipment within low-voltage systems – Part 3: Use of coating, potting or moulding for protection against pollution*

IEC 60664-4:2005, *Insulation coordination for equipment within low-voltage systems – Part 4: Consideration of high-frequency voltage stress*

IEC 61058-1-1:2016, *Switches for appliances – Part 1-1: Requirements for mechanical switches*

IEC 61058-1-2:2016, *Switches for appliances – Part 1-2: Requirements for electronic switches*

IEC 61058-2-6:2018, *Switches for appliances – Part 2-6: Particular requirements for switches used in electric motor-operated hand-held tools, transportable tools and lawn and garden machinery*

IEC 61672-1:2013, *Electroacoustics – Sound level meters – Part 1: Specifications*

IEC 62841-1:2014, *Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety – Part 1: General requirements*

ISO 354:2003, *Acoustics – Measurement of sound absorption in a reverberation room*

ISO 13857:2019, *Safety of machinery – Safety distances to prevent hazard zones being reached by upper and lower limbs*

ISO 21920-3:2021, *Geometrical product specifications (GPS) – Surface texture: Profile – Part 3: Specification operators*

Replacement:

IEC 61058-1:2016, *Switches for appliances – Part 1: General requirements*

ISO 3744:2010, *Acoustics – Determination of sound power levels and sound energy levels of noise sources using sound pressure – Engineering methods for an essentially free field over a reflecting plane*

ISO 11201:2010, *Acoustics – Noise emitted by machinery and equipment – Determination of emission sound pressure levels at a workstation and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections*

3 Terms and definitions

[IEC 62841-4-8:2025](https://standards.iteh.ai/catalog/standards/iec/62841-4-8:2025)

IEC 62841-1:2014, Clause 3, is applicable, except as follows.

Addition:

3.101

appliance inlet

device which is incorporated in the enclosure of the machine for insertion of an electrical plug connection to the mains supply

3.102

debris collector

part or combination of parts that is required for **normal operation** of the machine and provides a means for collecting organic material from the **discharge chute**

3.103

direct opening action

achievement of contact separation as a direct result of a specified movement of the switch actuator through non-resilient members (e.g. non-dependent upon springs)

3.104

discharge chute

extension of the opening through which the shredded or chipped material is discharged

3.105**feed intake opening**

opening through which material is inserted to be fed to the **shredding means**

Note 101 to entry: A **feed intake opening** can become a **feed safety opening(s)** if the relevant safety distance from the **shredding means** is met.

3.106**feed safety opening**

opening through which material is passed and which is located at the relevant safety distance from the **shredding means**

Note 101 to entry: A feed safety opening can be the same as the **feed intake opening** in 3.105 or at some point between the **feed intake opening** and the **shredding means**.

3.107**maximum speed**

highest steady-state **shredding means** speed attainable under all conditions of **normal use**, including no-load, when adjusted in accordance with the manufacturer's specifications and/or instructions

Note 101 to entry: The steady-state **shredding means** speed excludes transients such as overshoot that can occur before attaining a steady-state condition.

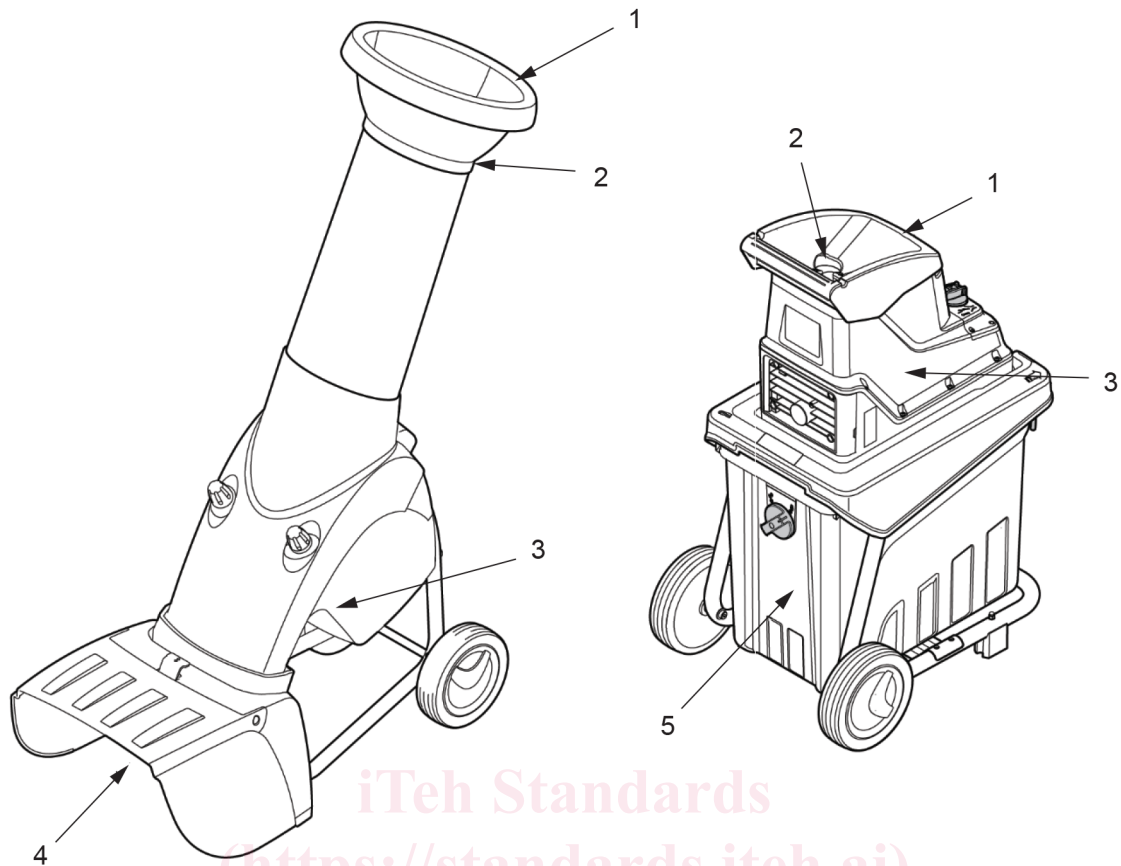
3.108**screen****grid**

perforated piece or bar(s) located between the **shredding means** and **discharge chute** or opening of the machine to assist in reducing organic materials to smaller pieces

3.109**shredder/chipper**

machine designed for use in a stationary position having a **shredding means** for the purpose of reducing organic materials to smaller pieces

Note 101 to entry: See Figure 101.



Key

- 1 feed intake opening
- 2 feed safety opening
- 3 shredding means
- 4 discharge chute
- 5 debris collector

Figure 101 – Examples of a shredder/chipper

3.110

shredding means

mechanism consisting of one or more cutting means with or without a **screen (grid)**, designed to reduce the size of organic material to smaller pieces

4 General requirements

IEC 62841-1:2014, Clause 4, is applicable, except as follows.

Replacement of the first paragraph:

Machines shall be so constructed that they operate safely so as to cause no danger to persons or surroundings, both under intended use as well as under reasonably foreseeable misuse.

5 General conditions for the tests

IEC 62841-1:2014, Clause 5, is applicable, except as follows.

5.17 Addition:

*The mass of the machine includes the **shredding means** and **debris collector** (empty) (if any), in the heaviest configuration in accordance with 8.14.2.*

5.101 *The tests are performed using all **shredding means** in accordance with 8.14.2 a) 104).*

6 Radiation, toxicity and similar hazards

IEC 62841-1:2014, Clause 6, is applicable.

7 Classification

IEC 62841-1:2014, Clause 7, is applicable, except as follows.

7.2 Addition:

Class I tools (machines) and **class II tools** (machines) shall be at least IPX4. **Class III tools** (machines) shall be at least IPX1.

8 Marking and instructions

IEC 62841-1:2014, Clause 8, is applicable, except as follows.

8.1 Replacement of the third dash:

- for machines intended to be operated continuously, the **rated input**, in watts, or **rated current**, in amperes. The **rated input** or **rated current** to be marked on the machine is the total maximum input or current that can be drawn from external circuit at the same time. If a machine has alternative components which can be selected by a **control device**, the **rated input** or **rated current** is that corresponding to the highest loading possible;

Addition:

- for machines intended to be operated intermittently, the **rated input**, in watts, or **rated current**, in amperes. The **rated input** or **rated current** to be marked on the machine is the total maximum input or current that can be drawn from external circuit at the same time. If a machine has alternative components which can be selected by a **control device**, the **rated input** or **rated current** is that corresponding to the highest loading possible. The marking of the **rated input** or **rated current** value shall be followed by the text "(P40)".

8.2 Addition:

Shredders/chippers shall be marked with the following safety warnings:

- "⚠️WARNING – Rotating blades. Keep hands and feet out of openings while machine is running" or one of the product safety labels specified in Figure AA.1;
- "⚠️WARNING – Keep bystanders away", or "⚠️WARNING – Keep bystanders away by at least _____", where "_____" is the recommended minimum distance between the machine and the bystander, or one of the product safety labels specified in Figure AA.2;

- "⚠️ WARNING – Beware of thrown objects" or a relevant safety sign of ISO 7010 or the product safety label specified in Figure AA.3;
- "⚠️ WARNING – Remove plug from mains before maintenance or if the cord is damaged" or one of the product safety labels specified in Figure AA.4;
- "Wear eye protection" or a relevant safety sign of ISO 7010 or one of the product safety labels specified in Figure AA.5;
- "Wear ear protection" or a relevant safety sign of ISO 7010 or the product safety label specified in Figure AA.6. This marking may be omitted if the measured A-weighted emission sound pressure level at the operator's ear in accordance with Annex I does not exceed 85 dB(A);

A combination of ISO 7010 safety signs for eye and ear protection is allowed. In addition, a combination of product safety labels as specified in Figure AA.7 is allowed.

- "Wear protective gloves" or symbol ISO 7010-M009:2011-05;
- "⚠️ WARNING – Wait until all machine components have completely stopped before touching them" or the product safety label specified in Figure AA.8. This marking shall be located in the vicinity of the **discharge chute** and also visible before opening or removing any **guard** in accordance with 19.103 that is designed to be opened or removed for **user maintenance** that permits access to moving parts in accordance with 8.14.2 c) 106). This requirement may be fulfilled by one or more warnings or product safety labels;
- when a **guard** or **debris collector** is so positioned or shaped that it could be misused as a step, there shall be a warning marking "Do not use as a step" or symbol ISO 7010-P024:2011-05, located as close as practicable to the **guard** or **debris collector**.

8.3 Addition:

The **shredding means**, where replaceable during **user maintenance**, shall be marked to identify the part number(s) and the manufacturer, importer or supplier. This marking is not required to be clearly discernible from the outside of the machine.

Replacement of the sixth dashed item:

- "> 25 kg" or the mass of the machine in kg if the mass of the machine is over 25 kg. For this requirement, the mass of the machine shall be the mass specified in 8.14.3.

NOTE 101 In Europe (EN IEC 62841-4-8), the following requirement applies:

Replacement of the sixth dashed item:

- the mass of the machine in kg. For this requirement, the mass of the machine shall be the mass specified in 8.14.3.

8.4 Addition:

The warning marking "Do not use as a step" or symbol ISO 7010-P024:2011-05 specified in 8.2 may be located on the **guard** or **debris collector** if it is a **detachable part**.

The warning or product safety label that is visible before opening or removing any **guard** in accordance with 19.103 specified in 8.2 may be located on the **guard** if it is a **detachable part**.

8.9 Addition:

This requirement is not applicable for the **power switch**.