International Standard

ISO 19085-10

Woodworking machines — Safety —

Part 10: Building site saws (contractor saws)

Machines à bois — Sécurité —

Partie 10: Scies de chantier

Second edition
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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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This document was prepared by Technical Committee ISO/TC 39, *Machine tools*, Subcommittee SC 4, *Woodworking machines*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 142, *Woodworking machines - Safety*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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This second edition cancels and replaces the first edition (ISO 19085-10:2018), which has been technically revised.

The main changes are as follows:

— the referencing structure to ISO 19085-1:2021 has been simplified;

— the Scope has been revised to specify that machines are intended for continuous production use;

— the list of significant hazards has been moved to a new Annex A;

— the verification methods at the end of each subclause have been deleted;

— requirements on dimensions of the guard opening have been added in 5.6.1 b) and replacing the test probe figure and dimensions in former Annex K;

— the table and figure for the dimensions of machine table and extension table have been moved from the former Annex H to 5.10.1;

— the requirements on the wedge cutting device have been moved from 5.11 to the new 5.10.5;

— subclause 6.2 has been updated and a new full noise test code has been added in Annex F.

This document is intended to be used in conjunction with ISO 19085-1:2021.

A list of all parts in the ISO 19085 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

The ISO 19085 series provides technical safety requirements for the design and construction of woodworking machinery, as well as for the content of the relevant instruction handbook. The ISO 19085 series is intended for designers, manufacturers, suppliers and importers of the machines specified in the Scope of its parts.

This document is a type-C standard as stated in ISO 12100:2010.

This document is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

— machine manufacturers (small, medium and large enterprises);

— health and safety bodies (regulators, accident prevention organisations, market surveillance, etc.).

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

— machine users/employers (small, medium and large enterprises);

— machine users/employees (e.g. trade unions, organizations for people with special needs);

— service providers, for example, for maintenance (small, medium and large enterprises);

— consumers (in the case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate in the drafting process of this document.

The machinery concerned and the extent to which hazards, hazardous situations or hazardous events are covered are indicated in the Scope of this document.

When requirements of this type-C standard are different from those which are stated in type-A or type-B standards, the requirements of this type-C standard take precedence over the requirements of the other standards for machines that have been designed and built according to the requirements of this type-C standard.

In this document, a subclause can refer to the same subclause of ISO 19085-1:2021 or give specific requirements or both. The specific text can be subdivided into further subclauses.

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Woodworking machines — Safety —

Part 10: Building site saws (contractor saws)

1 Scope

This document gives the safety requirements and measures for building site saws, designed to cut wood and materials with similar physical characteristics to wood, capable of continuous production use, hereinafter referred to also as "machines".

This document deals with all significant hazards, hazardous situations or hazardous events, listed in Annex A, relevant to the machines, when it is used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer.

This document is also applicable to the other life cycle phases of the machines: transport, assembly, adjustment, maintenance, dismantling and scrapping.

This document applies to a machine that can also be fitted with a device for the saw blade to be manually raised and lowered through the table, whose hazards have been dealt with.

This document applies to a machine designed to cut against the feed only.

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This document does not apply to:

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a) machines with a maximum saw blade diameter smaller than 350 mm or greater than 500 mm;

b) hand-held motor-operated electric tools, including any adaptation permitting their use in a different mode, i.e. bench mounting;

c) transportable motor-operated electric tools;

d) machines with a device to tilt the saw blade for angle cutting, machines with more than one saw blade rotational speed and machines equipped with a sliding table.

NOTE 1 Hand-held motor-operated electric tools are covered by IEC 62841-1 together with IEC 62841-2-5.

NOTE 2 Transportable motor-operated electric tools are covered by IEC 62841-1 together with IEC 62841-3-1.

NOTE 3 Machines with the device to tilt the saw blade for angle cutting, machines with more than one saw blade rotational speed and machines equipped with a sliding table are considered as table saws, covered by ISO 19085-9.

This document is not applicable to machines intended for use in potentially explosive atmospheres or to machines manufactured prior to the date of its publication.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction*

ISO 13849-1:2023, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*

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

ISO 19085-1:2021, *Woodworking machines — Safety — Part 1: Common requirements*

IEC 60204-1:2016+A1:2021, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements*

IEC 61800-5-2:2016, *Adjustable speed electrical power drive systems — Part 5-2: Safety requirements — Functional*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12100:2010, ISO 13849-1:2023, ISO 19085-1:2021 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

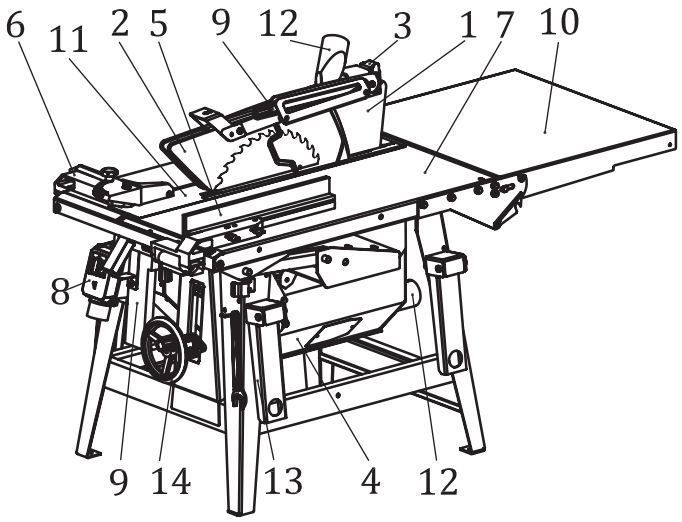
3.1
building site saw
contractor saw
hand-fed machine fitted with a saw blade mounted under the table designed for use on building sites outdoor and equipped with integral provisions for lifting (e.g. lifting eyes)

Note 1 to entry: The saw blade is mounted on a horizontal spindle below the table. The machine can have the device for the saw blade to be raised and lowered through the table. An example of a building site saw is given in Figure 1.

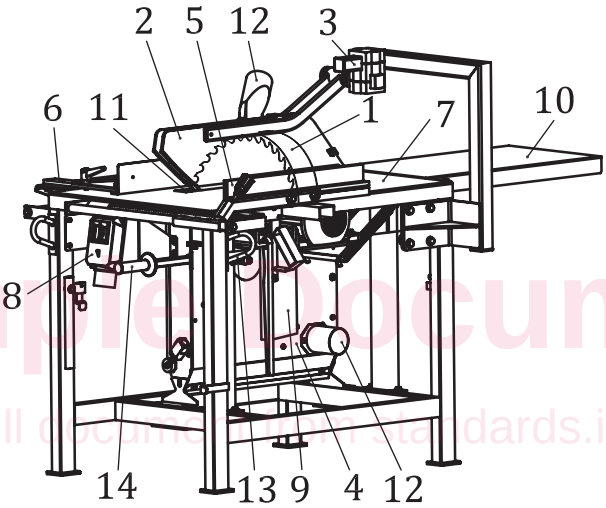
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a) Building site saw with saw blade guard mounted onto the riving knife



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b) Building site saw with saw blade guard mounted separately from the riving knife

Key

1	riving knife
2	saw blade guard
3	saw blade guard support
4	fixed guard beneath table
5	rip fence
6	cross-cut fence
7	machine table
8	controls on the front side
9	push block or push stick
10	extension table
11	table insert
12	chips and dust outlet (for indoor use)
13	lifting eyes
14	cutting height adjustment (optional)

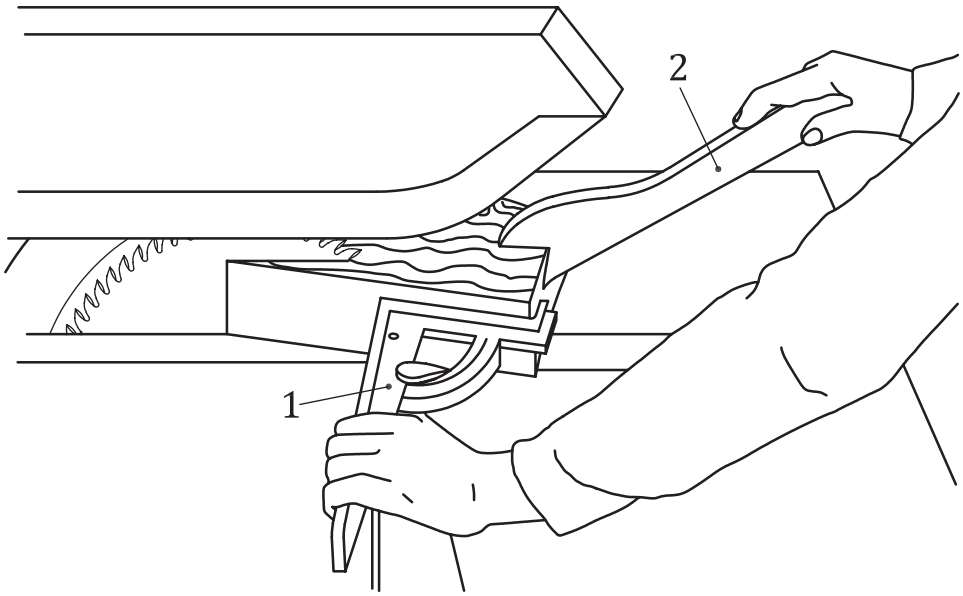
Figure 1 — Examples of a building site saw with different mountings of the saw blade guard

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3.2
wedge cutting device
device to cut wedges with different angles

Note 1 to entry: An example of a wedge cutting device is shown in Figure 2.



Key
1 wedge cutting device
2 push stick

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Figure 2 — Example of a wedge cutting device

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4 Safety requirements and measures for controls

4.1 Safety and reliability of control systems

ISO 19085-1:2021, 4.1 shall apply.

NOTE ISO 19085-1:2021, 4.1 references subclauses of ISO 13849-1:2015, which has since been cancelled and replaced by ISO 13849-1:2023. The correspondence between the subclauses of ISO 13849-1:2015 cited in ISO 19085-1:2021, 4.1 and the subclauses with the same content of ISO 13849-1:2023 (cited in this document) is given in Table 1.

Table 1 — Correspondence of the subclauses of ISO 13849-1:2015 cited in ISO 19085-1:2021, 4.1, with those in ISO 13849-1:2023

ISO 13849-1:2015	ISO 13849-1:2023
4.6.1	7.1
4.6.2	7.3
4.6.3	7.4
4.7	8
8	10

Table B.1 summarizes the performance levels required (PL_r) in Clauses 4 and 5 for each safety function.

4.2 Control devices

ISO 19085-1:2021, 4.2 shall apply.

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The normal stop control device for the saw blade shall be positioned adjacent to the start control device. Both shall be positioned on the front side of the machine (see Figure 1).

4.3 Start

4.3.1 Direct start

ISO 19085-1:2021, 4.3.1 shall apply, except the requirement on powered feed, which is not mounted on building site saws.

4.3.2 Start via control power-on

Starting via control power-on is not relevant to this machine.

4.4 Safe stops

4.4.1 General

ISO 19085-1:2021, 4.4.1 shall apply.

4.4.2 Normal stop

ISO 19085-1:2021, 4.4.2 shall apply.

4.4.3 Operational stop

Operational stop is not relevant to this machine.

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4.4.4 Emergency stop

Emergency stop is not relevant to this machine.

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4.5 Braking function of tools

ISO 19085-1:2021, 4.5 shall apply.

4.6 Mode selection

Mode selection is not relevant to this machine, which has one operating mode only.

4.7 Tool speed changing

4.7.1 Speed changing by shifting the belts on the pulleys

No change of tool speed is relevant to this machine, which has one fixed value of tool speed only.

4.7.2 Speed changing by incremental speed change motor

No change of tool speed is relevant to this machine, which has one fixed value of tool speed only.

4.7.3 Infinitely variable speed by frequency inverter

If frequency inverter is provided, a speed fixed value shall be pre-set by the machine manufacturer and the speed shall be monitored.

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The control for speed monitoring shall ensure that, as soon as the speed exceeds the pre-set fixed value by more than 10 %, the drive is stopped automatically in stop category 0 in accordance with IEC 60204-1+A1: 2021:2016, 9.2.2.

The safety related parts of control systems (SRP/CS) for speed monitoring shall achieve PL_r = c.

For speed monitoring of power drive system (safety-related) [PDS(SR)], IEC 61800-5-2:2016, 4.2.4.5 [safely-limited speed (SLS)], 6.5.4 and 9.2 shall apply.

4.8 Failure of any power supply

ISO 19085-1:2021, 4.8 shall apply.

4.9 Manual reset control

Manual reset control is not relevant to this machine.

4.10 Standstill detection and monitoring

Standstill detection and monitoring are not relevant to this machine.

4.11 Machine moving parts speed monitoring

Machine moving parts speed monitoring is not relevant to this machine.

4.12 Time delay

ISO 19085-1:2021, 4.12 shall apply.

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4.13 Teleservice

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Teleservice is not relevant to this machine, which has no control computer, therefore it has no connection capability.

5 Safety requirements and measures for protection against mechanical hazards

5.1 Stability

ISO 19085-1:2021, 5.1 shall apply.

The machine shall be equipped with integral provisions for lifting, so that overturning is prevented during lifting. If lifting eyes are used for this purpose, use four lifting eyes (see Figure 1 Key 13).

All parts stored on the machines, like fences, shall not fall down during lifting of the machine.

The machine shall pass the stability test required in Annex C.

The machine shall pass the frame rigidity test required in Annex G.

5.2 Risk of break-up during operation

ISO 19085-1:2021, 5.2 shall apply.

The machine table slot shall be lined with easily machinable material (see ISO 19085-1:2021, 3.3).

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