



**SLOVENSKI STANDARD**  
**oSIST prEN ISO 19085-4:2021**  
**01-september-2021**

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**Lesnoobdelovalni stroji - Varnost - 4. del: Krožne žage z vertikalno ploščo (ISO/DIS 19085-4:2021)**

Woodworking machines - Safety - Part 4: Vertical panel circular sawing machines (ISO/DIS 19085-4:2021)

Holzbearbeitungsmaschinen - Sicherheit - Teil 4: Vertikalplattenkreissägemaschinen (ISO/DIS 19085-4:2021)

Machines à bois - Sécurité - Partie 4: Scies circulaires à panneaux verticales (ISO/DIS 19085-4:2021)

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**Ta slovenski standard je istoveten z: prEN ISO 19085-4**

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**ICS:**

13.110	Varnost strojev	Safety of machinery
25.080.60	Strojne žage	Sawing machines
79.120.10	Lesnoobdelovalni stroji	Woodworking machines

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# DRAFT INTERNATIONAL STANDARD

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## Woodworking machines — Safety —

### Part 4: Vertical panel circular sawing machines

*Machines à bois — Sécurité —**Partie 4: Scies circulaires à panneaux verticales*

ICS: 13.110; 79.120.10

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 39, *Machine tools*, Subcommittee SC 4, *Woodworking machines*.

This second edition cancels and replaces the first edition (ISO 19085-4:2018), which has been technically revised. The main changes compared to the previous edition are as follows:

- the Scope now specifies that machines are intended for continuous production use;
- the list of significant hazards has been moved to new [Annex A](#);
- the structure has been simplified and modified, in particular in [5.6](#);
- ...
- [Subclause 6.2](#) has been updated and a new full noise test code has been added in [Annex F](#).

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](http://www.iso.org/members.html).

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

## ISO/DIS 19085-4:2021(E)

### Introduction

The ISO 19085 series of International Standards provides technical safety requirements for the design and construction of woodworking machinery. It concerns designers, manufacturers, suppliers and importers of the machines specified in the Scope. It also includes a list of informative items to be provided to the user by the manufacturer.

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

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, e.g. for maintenance (small, medium and large enterprises);
- consumers (in case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate at 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.

The full set of requirements for a particular type of woodworking machine are those given in the part of ISO 19085 applicable to that type, together with the relevant requirements from ISO 19085-1, to the extent specified in the Scope of the applicable part of ISO 19085.

As far as possible, the safety requirements of parts of the ISO 19085 series refer to the relevant subclauses of ISO 19085-1. Each part contains replacements and additions to the common requirements given in ISO 19085-1.

[Clauses 1 to 3](#) are specific to each part and, therefore, replace ISO/FDIS 19085-1:2020, Clauses 1 to 3.

For [Clauses 4 to 7](#) and the annexes, ISO/FDIS 19085-1:2020, Clauses 4 to 7 and Annexes, each subclause can be:

- confirmed as a whole;
- confirmed with additions;
- excluded in total; or
- replaced with specific text.

This is indicated by one of the following possible statements:

- “ISO 19085-1:2020, [subclause/Annex], applies”;



- “ISO 19085-1:2020, [subclause/Annex], applies with the following additions.” or “ISO 19085-1:2020, [subclause/Annex], applies with the following additions, subdivided into further specific subclauses.”;
- “ISO 19085-1:2020, [subclause/Annex], does not apply.”;
- “ISO 19085-1:2020, [subclause/Annex], is replaced by the following text.” or “ISO 19085-1:2020, [subclause/Annex], is replaced by the following text, subdivided into further specific subclauses.”.

Other subclauses and annexes specific to this document are indicated by the introductory sentence: “Subclause/Annex specific to this document.”.

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# Woodworking machines — Safety —

## Part 4: Vertical panel circular sawing machines

### 1 Scope

This document gives the safety requirements and measures for manually loaded and unloaded vertical panel circular sawing machines capable of continuous production use, with hand feed or integrated feed, as defined in [3.1](#), hereinafter referred to as “machines”.

It deals with all significant hazards, hazardous situations and events as listed in [Annex A](#), relevant to the machines, when operated, adjusted and maintained as intended and under the conditions foreseen by the manufacturer, including reasonably foreseeable misuse. Also, transport, assembly, dismantling, disabling and scrapping phases are taken into account.

It is also applicable to machines fitted with one or more of the following devices/additional working units, whose hazards have been dealt with:

- an integrated feed device;
- a device for scoring;
- an angle cutting device;
- a middle support device;
- programmable end stops for parallel vertical cuts;
- a device for grooving with a width of at most 20 mm in one pass by using a milling tool; and
- a panel pusher.

The machines are designed for cutting panels consisting of:

- a) solid wood;
- b) material with similar physical characteristics to wood (see ISO 19085-1:2021, 3.2);
- c) composite materials with core consisting, for example, of polyurethane or mineral material laminated with light alloy;
- d) polymer-matrix composite materials and reinforced thermoplastic/thermoset/elastomeric materials; and
- e) gypsum boards, gypsum bounded fibreboards.

This document does not apply to machines

- with pressure beam and saw unit mounted behind the workpiece support;
- where the guide rails on which the saw unit moves vertically are fixed on the machine frame and the horizontal cut can only be made by manually feeding the panel;
- designed to cut in vertical direction only;
- automatically performing two or more cutting cycles in sequence;

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- intended for use in potentially explosive atmosphere; and
- manufactured before 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 13849-1:2015, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*

ISO 13857:2008, *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*

EN 847-1:2017, *Tools for woodworking — Safety requirements — Part 1: Milling tools, circular saw blades*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12100:2010, in ISO 13849-1:2015, in ISO 19085-1:2021 and the following apply.

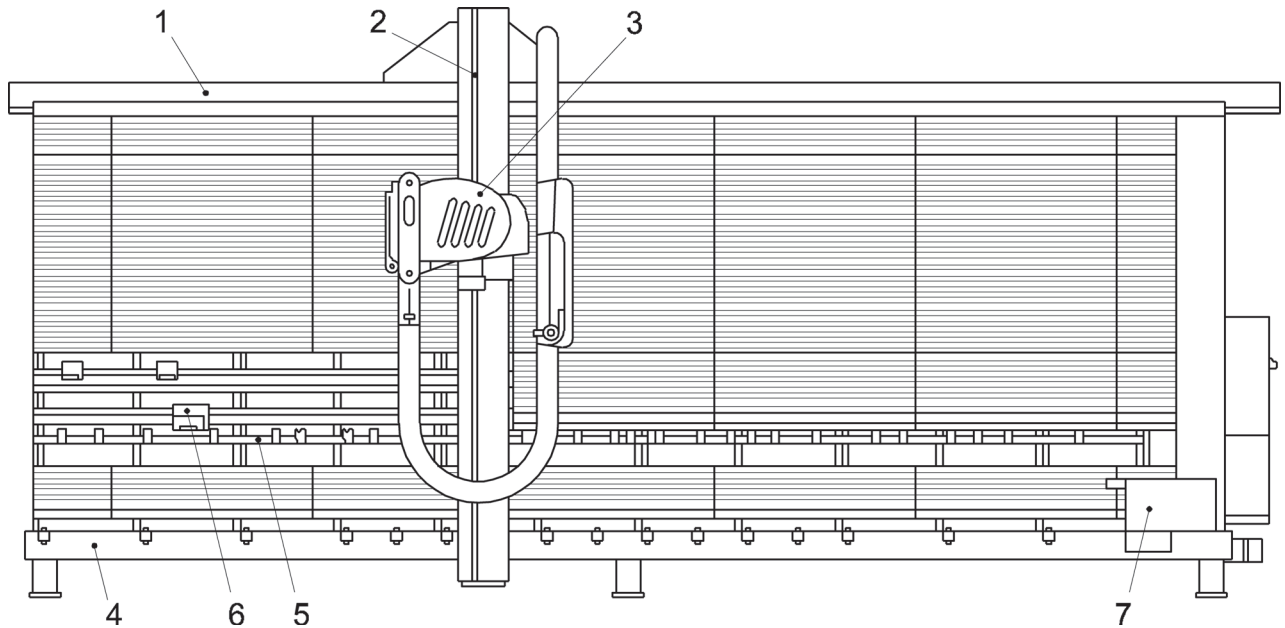
ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://standards.iteh.ai/catalog/standards/sist/8bd4614d-58ac-4fd7-9f94-420110000000/iso-19085-4-2021>

**3.1 vertical panel circular sawing machine**  
 machine, designed for cutting panels, with a nearly vertical workpiece support and the *saw unit* (3.2) mounted in front of the workpiece support

Note 1 to entry: An example is shown in [Figure 1](#). The machine can have hand feed or integrated feed (see ISO 19085-1:2021, 3.11 and 3.12). On this machine, the *feed* (ISO 19085-1:2021, 3.10) is the straight movement of the *saw unit* (3.2) along the moving beam for vertical cuts and together with the moving beam along the workpiece support for horizontal cuts. The infeed and outfeed movements are power driven on machines with integrated feed and can be power driven or not on machines with manual feed.

Note 2 to entry: Loading and unloading are manual. In manual loading, the operator puts the workpiece directly onto the workpiece support, with no intermediate loading device to receive and transfer the workpiece from the operator to the cutting position. In manual unloading, the operator removes the workpiece directly from the workpiece support, with no intermediate unloading device to transfer the workpiece from the cutting position to the operator.

**Key**

1	frame	5	middle support device
2	moving beam	6	programmable end stop
3	saw unit	7	panel pusher with clamping system
4	base of workpiece support		

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**Figure 1 — Example of a vertical panel sawing machine**

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**3.2****saw unit**

unit, incorporating and supporting the tools, that performs the cutting stroke

Note 1 to entry: the tools in the saw unit can be saw blades or a milling tool.

**3.3****main saw blade**

circular saw blade used to cut the workpiece into smaller pieces

**3.4****scoring saw blade**

circular saw blade used to pre-cut the workpiece surface, to avoid its damage by the main saw blade

**3.5****saw unit rest position**

position from which the saw unit starts a cut with an infeed movement and to which it returns with an outfeed movement at the end of each cut, either power driven or manually

**3.6****pivoting**

saw unit rotation, either manually or power driven, between the two perpendicular orientations to perform horizontal and vertical cuts

**3.7****cutting cycle**

on machines with integrated feed, all movements of the *saw unit* (3.2) during the machining operation

Note 1 to entry: The cutting cycle comprises: