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ISO 19085-4

Woodworking machines — Safety —

Part 4: Vertical panel circular sawing machines

Machines à bois — Sécurité —

Partie 4: Scies circulaires à panneaux verticales

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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 document 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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

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.

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).

This second edition cancels and replaces the first edition (ISO 19085-4:2018), which has been technically revised.

The main changes are as follows:

— the Scope now specifies that machines are intended for continuous production use;

— the main definitions have been improved (machine and cutting cycle) with the addition of defined intermediate terms;

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

— the structure has been simplified and modified, in particular in 5.6;

— the panel lowering device and relevant requirements have been added;

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

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. It concerns designers, manufacturers, suppliers and importers of the machines specified in the Scope.

This document is a type-C standard as defined 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 (e.g. regulators, accident prevention organisations, market surveillance).

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 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 (as defined in ISO 12100), 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 the ISO 19085 series 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 the ISO 19085 series.

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 includes replacements and additions to the common requirements given in ISO 19085-1.

All parts of the ISO 19085 series have the same structure, so that reference to ISO 19085-1 is made always and only from and to the same subclause number at the last indent level.

Clauses 1 to 3 are specific to each part and, therefore are distinct from ISO 19085-1:2021, Clauses 1 to 3.

For Clauses 4 to 7 and the annexes, each subclause in ISO 19085-1:2021 is cited as either:

— confirmed as a whole;

— confirmed with additions;

— excluded entirely; or

— replaced with specific text.

This is indicated by one of the following possible statements:

— “ISO 19085-1:2021, [subclause/Annex], applies”;

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— “ISO 19085-1:2021, [subclause/Annex], applies with the following additions.” or “ISO 19085-1:2021, [subclause/Annex], applies with the following additions, subdivided into further specific subclauses.”;

— “ISO 19085-1:2021, [subclause/Annex], does not apply.”;

— “ISO 19085-1:2021, [subclause/Annex], is replaced by the following text.” or “ISO 19085-1:2021, [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 specifies the safety requirements and measures for manually loaded and unloaded vertical panel circular sawing machines (defined in 3.1) capable of continuous production use, with hand feed or integrated feed, hereinafter referred to also as "machines".

This document 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. Transport, assembly, dismantling, disabling and scrapping phases are also taken into account.

This document 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 milling tool with a cutting width not exceeding 27 mm;

— a panel pusher;

— a panel lowering device;

— stop devices for workpiece during horizontal cuts.

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;

e) gypsum boards, gypsum bounded fibreboards;

f) honeycomb aluminium boards;

g) matrix engineered mineral boards, silicate boards;

h) aluminium light alloy plates;

i) composite boards made from the materials listed above.

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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,

— intended for use in potentially explosive atmosphere, and

— manufactured prior to the publication of this document.

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*

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*

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, 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
vertical panel circular sawing machine
machine, designed for cutting panels, with a nearly vertical workpiece support, a beam mounted parallel to it and moving horizontally along it, carrying a *saw unit* (3.2) mounted in front of the workpiece support

Note 1 to entry: An example of a vertical panel circular sawing machine is shown in Figure 1. The machine can have a hand feed or an integrated feed (see ISO 19085-1:2021, 3.11 and 3.12).

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