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Woodworking machines - Safety - Part 2: Horizontal beam panel circular sawing machines (ISO 19085-2:2021)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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Woodworking machines - Safety - Part 2: Horizontal beam panel circular sawing machines (ISO 19085-2:2021)

Machines à bois - Sécurité - Partie 2: Scies circulaires à panneaux horizontales à presseur (ISO 19085-2:2021)

Holzbearbeitungsmaschinen - Sicherheit - Teil 2: Horizontale Plattenkreissägemaschinen mit Druckbalken (ISO 19085-2:2021)

This European Standard was approved by CEN on 5 September 2021.

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European foreword

This document (EN ISO 19085-2:2021) has been prepared by Technical Committee ISO/TC 39 "Machine tools" in collaboration with Technical Committee CEN/TC 142 "Woodworking machines - Safety" the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2022, and conflicting national standards shall be withdrawn at the latest by May 2022.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 19085-2:2017.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

For the relationship with EU Directive(s) / Regulation(s), see informative Annex ZA, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 19085-2:2021 has been approved by CEN as EN ISO 19085-2:2021 without any modification.

EN ISO 19085-2:2021 (E)**Annex ZA**
(informative)**Relationship between this European Standard and the essential requirements of Directive 2006/42/EC aimed to be covered**

This European Standard has been prepared under a Commission's standardization request "M/396 Mandate to CEN and CENELEC for Standardisation in the field of machinery" to provide one voluntary means of conforming to essential requirements of Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast).

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard and Annex I of Directive 2006/42/EC

The relevant Essential Requirements of Directive 2006/42/EC	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
1.1.2 Principles of safety integration		
a) fitted for its function	Clauses 4, 5, 6, 7	
b) eliminate or reduce the risks, give measures, inform	Clauses 4, 5, 6, 7	
c) intended use and reasonably foreseeable misuse	Clauses 4, 5, 6, 7	
d) constraints in use	6.5, 7.3	
e) equipment	5.1, 7.3	
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1.2.1 Safety and reliability of control systems	4.1, 6.7, 6.8	
1.2.2 Control devices	4.2, 4.3, 4.4, 4.7	
1.2.3 Starting	4.3	
1.2.4 Stopping	4.4, 4.5, 5.4	
1.2.4.1 Normal stop	4.4.2	
1.2.4.3 Emergency stop	4.4.4	
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	7.3	
c) brake	4.5, 5.4	
d) accidental tool contact	5.6.2, 7.3	

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

INTERNATIONAL STANDARD

ISO 19085-2

Second edition
2021-10

Woodworking machines — Safety — Part 2: Horizontal beam panel circular sawing machines

Machines à bois — Sécurité —

Partie 2: Scies circulaires à panneaux horizontales à presseur



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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).

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).

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 19085-2:2017), 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, and other additional working units have been added, as well as special workable materials and an exclusion;
- the list of significant hazards has been moved to new [Annex A](#);
- the structure has been simplified, in particular in [5.6](#);
- machines without panel pusher have been included and fully covered in [5.6.4](#);
- other loading devices have been considered in [5.6.9.1](#), [5.6.9.2](#) and new [subclause 5.6.9.3](#);
- requirements on minimum gaps at the unloading area have been added in new [subclause 5.6.10](#);
- 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.

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

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Introduction

The ISO 19085 series 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 19085-1:2021, Clauses 1 to 3.

For [Clauses 4 to 7](#) and the annexes, ISO 19085-1:2021, 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 19085-1:2021, [subclause/Annex], applies”;

- “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.”.

Woodworking machines — Safety —

Part 2: Horizontal beam panel circular sawing machines

1 Scope

This document gives the safety requirements and measures for horizontal beam panel circular sawing machines with the saw carriage of the front cutting line mounted below the workpiece support, which are manually and/or powered loaded and manually unloaded, capable of continuous production use, as defined in [3.1](#) and hereinafter referred to 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. Also, transport, assembly, dismantling, disabling and scrapping phases have been 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:

- side pressure device;
- device for powered unloading;
- unit for scoring;
- unit for post-formed/soft-formed edge pre-cutting;
- panel turning device;
- front side turn table;
- pushing out device;
- pneumatic clamping of the saw blade;
- powered panel loading device;
- device for grooving by milling tool;
- one or more additional cutting lines inside the machine for longitudinal and/or head cut (before the transversal cutting line);
- workpiece vacuum clamping as part of a front side turn table or of a panel loading device;
- panel pusher;
- independent panel pushers;
- additional panel pushers mounted on the panel pusher carriage;
- additional panel pusher with integrated label printer device;
- lifting platform;
- device for automatic loading of thin panels;
- device for base board unloading by gravity;

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- device for base board powered unloading;
- device for panel unloading in limited space condition;
- loading or pre-loading roller conveyors;
- pressure beam with additional flaps to increase dust extraction efficiency;
- saw blade cooling system by air or water-air or oil-air;
- vibrating conveyor with/without trimming unit for offcuts management;
- predisposition for top loading/unloading by an external system directly on the machine table and/or on the machine preloading roller conveyor and/or on the machine lifting table.

NOTE base board is a support panel underlying the panel stack, to protect the panels from damages during transportation.

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) gypsum boards, gypsum bounded fibreboards;
- d) composite materials, with core consisting of e.g. polyurethane or mineral material, laminated with light alloy;
- e) cardboard;
- f) foam board;
- g) matrix engineered mineral boards, silicate boards;
- h) polymer-matrix composite materials and reinforced thermoplastic/thermoset/elastomeric materials;
- i) aluminium light alloy plates with a maximum thickness of 10 mm;
- j) composite boards made from the materials listed above.

This document does not deal with hazards related to:

- specific features different from those listed above;
- the machining of panels with milling tools for grooving;
- powered unloading of panels;
- rear half of split pressure beam on the front cutting line;
- the combination of a single machine being used with any other machine (as part of a line).

It is not applicable to:

- machines intended for use in potentially explosive atmospheres;
- 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 13849-1:2015, *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 14118:2017, *Safety of machinery — Prevention of unexpected start-up*

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*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN