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ISO 19085-12

Woodworking machines — Safety —

Part 12: Tenoning-profiling machines

Machines à bois — Sécurité —

Partie 12: Machines à tenonner-profiler

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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).

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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.

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 19085-12:2021), which has been technically revised. The main changes are as follows:

— the Scope has been revised to specify that machines are intended for continuous production use, and other workable materials have been added;

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

— the feed chains greasing mode (MODE 3) has been added in 4.6.2;

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

— optional workpiece supporting devices have been added to the Scope, Clause 3 and 5.10.6 to 5.10.9.

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 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, 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 19085-1:2021, 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 19085-1:2021. Each part contains replacements and additions to the common requirements given in ISO 19085-1:2021.

All parts of the ISO 19085 series have the same structure, so that reference to ISO 19085-1:2021 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 12: Tenoning-profiling machines

1 Scope

1.1 This document specifies the safety requirements and measures for manually loaded and unloaded

— single-end tenoning machines with a manual feed sliding table,

— single-end tenoning machines with a mechanical feed sliding table,

— single-end tenoning-profiling machines with mechanical feed,

— double-end tenoning-profiling machines with mechanical feed, also designed to be automatically either loaded or unloaded, or both, and

— angular systems for tenoning and profiling with mechanical feed

with maximum workpiece height capacity of 200 mm for single-end machines and 500 mm for double-end machines, capable of continuous production use, altogether referred to as “machines”.

1.2 This document deals with all significant hazards, hazardous situations and events as listed in Annex A, relevant to 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.

1.3 The machines are designed to process in one pass one end or two sides, either opposite or perpendicular to each other, of workpieces made of

a) solid wood, and

b) materials with similar physical characteristics to wood (see ISO 19085-1:2021, 3.2); and

only the machines with mechanical feed, made of

c) fibre-cement,

d) rock wool and glass wool,

e) gypsum,

f) plasterboard,

g) matrix engineered mineral boards, silicate boards and sulfate boards,

h) composite materials with core consisting of polyurethane or mineral material laminated with light alloy,

i) polymer-matrix composite materials and reinforced thermoplastic, thermoset and elastomeric materials,

j) aluminium light alloy profiles, and

k) composite boards made from the materials listed above.

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

— sanding units;

— fixed or movable workpiece support;

— automatic tool changing;

— automatic workpiece returner;

— glass bead saw unit;

— hinge recessing unit;

— boring unit;

— dynamic processing unit;

— sawing unit installed out of the integral enclosure, between machine halves in double-end machines;

— foiling unit;

— coating unit;

— grooving unit with a milling tool installed out of the integral enclosure, between machine halves;

— brushing unit;

— gluing unit;

— sealing unit;

— dowels inserting unit;

— tongues inserting unit;

— inkjet marking unit;

— laser marking unit;

— labelling unit;

— workpiece back-up device (device that is either anti-chipping or anti-splintering, or both);

— quick tool changing system;

— post-formed edge pre-cutting unit;

— additional workpiece support (at either infeed or outfeed, or both);

— parallel infeed device on single-end machines;

— transversal infeed device on single-end machines;

— intermediate workpiece support on double-end machines;

— automatic infeed device;

— feed chain with dogs.

1.5 This document does not deal with any hazards related to:

a) systems for automatic loading and unloading of the workpiece to a single machine other than automatic workpiece returner;

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b) single machine being used in combination with any other machine (as part of a line);

c) use of tools, other than saw blades or boring tools or milling tools for grooving, installed between machine halves and out of the integral enclosure in double-end machines;

d) use of tools protruding out of the integral enclosure;

e) chemical characteristics of all materials listed in 1.3 c) to i) and their dust.

1.6 This document is not applicable to machines intended for use in potentially explosive atmosphere nor to machines manufactured prior to 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 286-2:2010, *Geometrical product specifications (GPS) — ISO code system for tolerances on linear sizes — Part 2: Tables of standard tolerance classes and limit deviations for holes and shafts*

ISO 11553-1:2020, *Safety of machinery — Laser processing machines — Part 1: Laser safety requirements*

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

ISO 13856-2:2013, *Safety of machinery — Pressure-sensitive protective devices — Part 2: General principles for design and testing of pressure-sensitive edges and pressure-sensitive bars*

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 60825-1:2014, *Safety of laser products — Part 1: Equipment classification and requirements*

IEC 61310-1:2007, *Safety of machinery — Indication, marking and actuation — Part 1: Requirements for visual, acoustic and tactile signals*

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 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
single-end tenoning machine with a manual feed sliding table
machine designed for the production of *tenons* (3.10) on one end of a workpiece during one cycle where the tenon is cut by means of milling tools and saw blades each mounted on its own spindle and with a manual feed sliding table supporting the workpiece during processing

Note 1 to entry: Figure 1 illustrates an example of a single-end tenoning machine with a manual feed sliding table.

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