SLOVENSKI STANDARD
oSIST prEN ISO 19085-12:2017

01-julij-2017

Lesnoobdelovalni stroji - Varnost - 12. del: Stroji za izdelovanje čepov in utorov/profilni stroji (ISO/DIS 19085-12:2017)

Woodworking machines - Safety - Part 12: Tenoning/profiling machines (ISO/DIS 19085-12:2017)

Holzbearbeitungsmaschinen - Sicherheit - Teil 12: Zapfenschneid- und Schlitzmaschinen / Profiliermaschinen (ISO/DIS 19085-12:2017)

Machines à bois - Sécurité - Partie 12: Machines à tenonner et/ou à profiler (ISO/DIS 19085-12:2017)

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13.110	Varnost strojev	Safety of machinery
79.120.10	Lesnoobdelovalni stroji	Woodworking machines

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Woodworking machines — Safety —

Part 12:
Tenoning/profiling machines

Machines à bois — Sécurité —

Partie 12: Machines à tenonner et/ou à 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 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 on 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.

The committee responsible for this document is ISO/TC 39, *Machine tools*, Subcommittee SC 4, *Woodworking machines*.

ISO 19085 consists of the following parts, under the general title Woodworking machines — Safety:

Part 1: Common requirements

Part 2: Horizontal beam panel sawing machines

Part 3: Numerically controlled (NC) boring and routing machines

Part 4: Vertical panel sawing machines

Part 5: Dimension saws

Part 6: Single spindle vertical moulding machines (“toupie”)

Part 7: Surface, thicknessing, combined surface/thicknessing planing machines

Part 8: Wide belt calibrating and sanding machines

Part 9: Bench saws (with and without sliding table)

Part 10: Building site saws (contractor saws)

Part 11: Combined machines

Part 12: Tenoning / profiling machines

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.

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

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

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, in parts of ISO 19085 other than ISO 19085-1, safety requirements are referenced to the relevant sections of ISO 19085-1, to avoid repetition and reduce their length. The other parts contain replacements and additions to the common requirements given in ISO 19085-1.

This part of ISO 19085 is intended to be used in conjunction with ISO 19085-1, which gives requirements common to the different machine types.

Thus, Clauses 5, 6, 7 and 8 with their subclauses and the annexes of this part can either

— confirm as a whole,

— confirm with additions,

— exclude in total, or

— replace with specific text

the corresponding subclauses or annexes of ISO 19085-1.

This interrelation is indicated in the first paragraph of each subclause right after the title by one of the following statements:

— “This subclause of ISO 19085-1 applies”;

— “This subclause of ISO 19085-1 applies with the following additions.” or “This subclause of ISO 19085-1 applies with the following additions, subdivided into further specific subclauses.”;

— “This subclause of ISO 19085-1 does not apply.”;

— “This subclause of ISO 19085-1 is replaced by the following text.” or “This subclause of ISO 19085-1 is replaced by the following text, subdivided into further specific subclauses.”.

Specific subclauses and annexes in this part without correspondent in ISO 19085-1 are indicated by the introductory sentence: “Subclause (or Annex) specific to this part.”.

Clauses 1, 2, 4 replace the correspondent clauses of ISO 19085-1, with no need for indication since they are machine specific.

Requirements for tools are given in EN 847-1:2013 and in EN 847-2:2013 and for clamping devices in EN 847-3:2010.

Woodworking machines — Safety — Part 12: Tenoning/profiling machines

1 Scope

This part of ISO 19085 gives the safety requirements and measures for stationary, manually loaded and unloaded:

— single end tenoning machines with manual feed sliding table,

— single end tenoning machines with mechanical feed sliding table,

— single end tenoning and/or profiling machines with mechanical feed,

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

— angular systems for tenoning and profiling with mechanical feed,

with maximum work-piece height capacity of 200 mm for single end machines and 500 mm for double end machines, hereinafter referred to as “machines”.

It deals with all significant hazards, hazardous situations and events as listed in Clause 4 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 are taken into account.

NOTE For relevant but not significant hazards, e.g. sharp edges of the machine frame, see ISO 12100:2010.

The machines are designed to process in one pass one end or two sides, either opposite or perpendicular to each other, of work-pieces made of:

1) solid wood,

2) materials with similar physical characteristics to wood (see ISO 19085-1:2016, 3.2),

3) fibre-cement, rock/glass wool, gypsum, plasterboard, only with machines with mechanical feed.

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

— sanding belt units;

— fixed or movable work-piece support;

— automatic tool changing;

— automatic work-piece returner;

— glass bead saw unit;

— hinge recessing unit;

— post forming edge pre-cutting;

— 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 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;

— work-piece back-up device (anti-chipping / anti-splintering device).

This part of ISO 19085 does not deal with any hazards related to:

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

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 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 fibre-cement, rock/glass wool, gypsum, plasterboard and their dust.

It 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, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 4413:2010, *Hydraulic fluid power — General rules and safety requirements for systems and their components*

ISO 4414:2010, *Pneumatic fluid power — General rules and safety requirements for systems and their components*

ISO 7960:1995, *Airborne noise emitted by machine tools — Operating conditions for woodworking machines*

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

ISO 13732-1:2006, *Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces Hot surfaces*

ISO 13849-1:2006+A1:2015, *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 19085-1:2016, *Woodworking machines — Safety — Part-1: common requirements*

IEC 13856-2:2005, *Safety of machinery — Pressure sensitive protection devices — Part 2: General principles for the design and testing of pressure sensitive edges and pressure sensitive bars*

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

EN 847-1:2013, *Tools for woodworking — Safety requirements — Part 1: Milling tools, circular saw blades*

EN 847-2:2013, *Tools for woodworking — Safety requirements — Part 2: Requirements for the shank of shank mounted milling tools/circular saw blades*

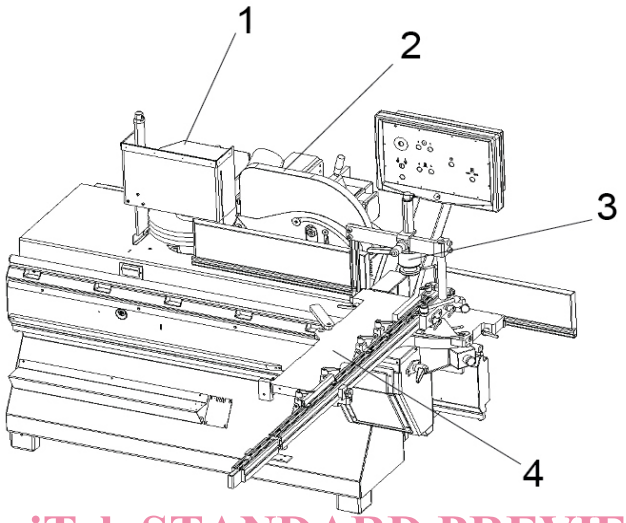
EN 847-3:2013, *Tools for woodworking — Safety requirements — Part 3: Clamping devices*

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 19085-1:2016 and the following apply.

3.1
single end tenoning machines with manual feed sliding table
a machine designed for the production of a tenon on one end of a work-piece during one cycle where the tenon is cut by means of milling tools and saw blades mounted on one or more spindles and with manual feed sliding table supporting the work-piece during processing

Note 1 to entry: See Figure1 for an example.

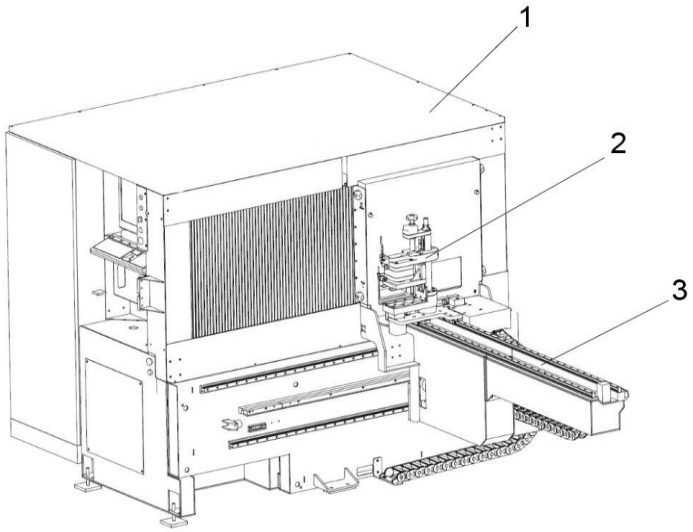


Key
1 milling tool enclosure
2 saw blade enclosure
3 work-piece clamping device
4 manual feed sliding table

Figure 1 — Example of a single end tenoning machine with manual feed sliding table

3.2
single end tenoning machines with mechanical feed sliding table
machine designed for the production of a tenon on one end of a workpiece during one cycle where the tenon is cut by means of milling tools and saw blades mounted on one or more spindles, with mechanical feed sliding table and with one operator position for both loading and unloading

Note 1 to entry: See Figure 2 for an example.



Key
1 tools enclosure
2 work-piece clamping device
3 mechanical feed sliding table

Figure 2 — Example of a single end tenoning machine with mechanical feed sliding table

3.3
single end tenoning and/or profiling machines with mechanical feed
machine designed for production of tenons and/or profiles on one side of the work-piece in one pass.

Note 1 to entry: The tenons and/or profiles are processed by means of milling tools, saw blades and/or sanding wheels mounted on one or more spindles. The workpiece is supported and fed by means of a chain or chains, using pads and/or dogs mounted on a continuous chain belt or similar conveyor. An alternative design is power driven upper feed rollers with work-piece sliding on a lower work-piece support. This machine is also known as "shaper-sander" or "shape and sand machine" (e.g. in North America) and is commonly used for cabinets doors manufacturing.
As an example see Figure 3.
The machine can be equipped with these additional devices/facilities:

- glass bead saw unit;
- post forming edge pre-cutting;
- dynamic processing unit;
- automatic work-piece returner;
- hinge recessing unit;
- boring unit;
- foiling unit;
- sanding belt unit.