

SLOVENSKI STANDARD

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Varnost lesnoobdelovalnih strojev - Krožne žage - 8. del: Enolistne obrezovalne krožne žage s pogonsko enoto in ročnim dodajanjem in/ali odvzemanjem

Safety of woodworking machines - Circular sawing machines - Part 8: Single blade edging circular rip sawing machines with power driven saw unit and manual loading and/or unloading

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Sicherheit von Holzbearbeitungsmaschinen - Kreissägemaschinen - Teil 8: Einblattbesäum- und Leistenkreissägemaschinen mit kraftbetätigtem Sägeaggregat und Handbeschickung und/oder Handentnahme

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Sécurité des machines pour le travail du bois - Machines à scies circulaires - Partie 8: Déligneuses mono-lames à déplacement mécanisé du groupe de sciage et à chargement et/ou déchargement manuel

Ta slovenski standard je istoveten z: EN 1870-8:2012

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EUROPEAN STANDARD
NORME EUROPÉENNE
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Supersedes EN 1870-8:2001+A1:2009

English Version

**Safety of woodworking machines - Circular sawing machines -
Part 8: Single blade edging circular rip sawing machines with
power driven saw unit and manual loading and/or unloading**

Sécurité des machines pour le travail du bois - Machines à
scies circulaires - Partie 8: Déligneuses mono-lames à
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Sicherheit von Holzbearbeitungsmaschinen -
Kreissägemaschinen - Teil 8: Einblattbesäum- und
Leistenkreissägemaschinen mit kraftbetätigtem
Sägeaggregat und Handbeschickung und/oder
Handentnahme

This European Standard was approved by CEN on 1 September 2012.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EN 1870-8:2012 (E)**Foreword**

This document (EN 1870-8:2012) has been prepared by 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 2013, and conflicting national standards shall be withdrawn at the latest by May 2013.

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

This document supersedes EN 1870-8:2001+A1:2009.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of the Machinery Directive.

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

The main modifications to the previous version concern inclusion of performance levels (PL).

Organisations contributing to the preparation of this European Standard include European Committee of Woodworking Machinery Manufacturers Association "EUMABOIS"

EN 1870 *Safety of woodworking machines* — *Circular sawing machines* consists of the following parts:

- *Part 1: Circular saw benches (with and without sliding table), dimension saws and building site saws;*
- *Part 3: Down cutting cross-cut saws and dual purpose down cutting cross-cut saws/circular saw benches;*
- *Part 4: Multiblade rip sawing machines with manual loading and/or unloading;*
- *Part 5: Circular sawbenches/up-cutting cross-cut sawing machines;*
- *Part 6: Circular sawing machines for firewood and dual purpose circular sawing machines for firewood/circular saw benches, with manual loading and/or unloading;*
- *Part 7: Single blade log sawing machines with integrated feed table and manual loading and/or unloading;*
- *Part 8: Single blade edging circular rip sawing machines with power driven saw unit and manual loading and/or unloading (the present document);*
- *Part 9: Double blade circular sawing machines for cross-cutting with integrated feed and with manual loading and/or unloading;*
- *Part 10: Single blade automatic and semi-automatic up-cutting cross-cut sawing machines;*
- *Part 11: Semi-automatic and automatic horizontal cross-cut sawing machines with one saw unit (radial arm saws);*
- *Part 12: Pendulum cross-cut sawing machines;*
- *Part 13: Horizontal beam panel sawing machines;*

- *Part 14: Vertical panel sawing machines;*
- *Part 15: Multi-blade cross-cut sawing machines with integrated feed of the workpiece and manual loading and/or unloading;*
- *Part 16: Double mitre sawing machines for V-cutting;*
- *Part 17: Manual horizontal cutting cross-cut sawing machines with one saw unit (manual radial arm saws);*
- *Part 18: Dimension saws (at Formal Vote stage at the time of publication of the present document);*
- *Part 19: Circular saw benches (with and without sliding table) and building site saws (at Enquiry stage at the time of publication of the present document).*

The European Standards produced by CEN/TC 142 are particular to woodworking machines and complement the relevant A and B Standards on the subject of general safety (see Introduction of EN ISO 12100:2010 for a description of A, B and C standards).

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

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EN 1870-8:2012 (E)**Introduction**

This document has been prepared to be a harmonised standard to provide one means of conforming to the essential safety requirements of the Machinery Directive, and associated EFTA regulations. This document is a type “C” standard as defined in EN ISO 12100:2010.

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

The requirements of this document are directed to manufacturers and their authorised representatives of single blade edging circular rip sawing machines with power driven saw unit and manual loading and/or unloading. This document is also useful for designers and importers.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of other standards, for machines that have been designed and built according to the provisions of this type C standard.

This document also includes information to be provided by the manufacturer to the user.

Common requirements for tooling are given in EN 847-1:2005+A1:2007.

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1 Scope

This European Standard deals with all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to single blade edging circular rip sawing machines with power driven saw unit and manual loading and/or unloading, hereinafter referred to as “machines”, designed to cut solid wood, chipboard, fibreboard and plywood when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse.

This document applies to machines where the workpiece is stationary, the vertical and horizontal movements of the saw unit are power driven, and where the machine is provided with workpiece clamping. The workpiece may or may not be clamped during cutting.

This document does not apply to machines:

- where the workpiece is fed to the saw blade during cutting;
- designed for cutting veneers;
- provided with a device situated behind the line of cut, which moves in a direction parallel to the line of cut, for automatically unloading the workpiece during the return of the saw unit to the rest position.

This document is not applicable to machines manufactured before its date of publication as EN.

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.

- EN 349:1993+A1:2008, *Safety of machinery — Minimum gaps to avoid crushing of parts of the human body*
- EN 614-1:2006+A1:2009, *Safety of machinery — Ergonomic design principles — Part 1: Terminology and general principles*
- EN 614-2:2000+A1:2008, *Safety of machinery — Ergonomic design principles — Part 2: Interactions between the design of machinery and work tasks*
- EN 847-1:2005+A1:2007, *Tools for woodworking — Safety requirements — Part 1: Milling tools, circular saw blades*
- EN 894-1:1997+A1:2008, *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 1: General principles for human interactions with displays and control actuators*
- EN 894-2:1997+A1:2008, *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 2: Displays*
- EN 894-3:2000+A1:2008, *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 3: Control actuators*
- EN 1005-1:2001+A1:2008, *Safety of machinery — Human physical performance — Part 1: Terms and definitions*
- EN 1005-2:2003+A1:2008, *Safety of machinery — Human physical performance — Part 2: Manual handling of machinery and component parts of machinery*

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EN 1005-3:2002+A1:2008, *Safety of machinery — Human physical performance — Part 3: Recommended force limits for machinery operation*

EN 1005-4:2005+A1:2008, *Safety of machinery — Human physical performance — Part 4: Evaluation of working postures and movements in relation to machinery*

EN 1037:1995+A1:2008, *Safety of machinery — Prevention of unexpected start-up*

EN 1088:1995+A2:2008, *Safety of machinery — Interlocking devices associated with guards — Principles for design and selection*

EN 1837:1999+A1:2009, *Safety of machinery — Integral lighting of machines*

EN 12779:2004+A1:2009, *Safety of woodworking machines — Chip and dust extraction systems with fixed installation — Safety related performances and safety requirements*

EN 50370-1:2005, *Electromagnetic compatibility (EMC) — Product family standard for machine tools — Part 1: Emission*

EN 50370-2:2003, *Electromagnetic compatibility (EMC) — Product family standard for machine tools — Part 2: Immunity*

EN 60204-1:2006, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:2005, modified)*

EN 60439-1:1999,¹⁾ *Low-voltage switchgear and controlgear assemblies — Part 1: Type-tested and partially type-tested assemblies (IEC 60439-1:1999)*

EN 60529:1991,²⁾ *Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989)*

EN 60825-1:2007, *Safety of laser products — Part 1: Equipment classification and requirements (IEC 60825-1:2007)*

EN 61310-1:2008, *Safety of machinery — Indication, marking and actuation — Part 1: Requirements for visual, acoustic and tactile signals (IEC 61310-1:2007)*

EN 61800-5-2:2007, *Adjustable speed electrical power drive systems — Part 5-2: Safety requirements — Functional (IEC 61800-5-2:2007)*

EN 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 286-2:2010)*

EN ISO 3743-1:2010, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering methods for small, movable sources in reverberant fields — Part 1: Comparison method for a hard-walled test room (ISO 3743-1:2010)*

EN ISO 3743-2:2009, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Engineering methods for small, movable sources in reverberant fields — Part 2: Methods for special reverberation test rooms (ISO 3743-2:1994)*

EN ISO 3744:2010, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering method in an essentially free field over a reflecting plane (ISO 3744:2010)*

1) EN 60439-1:1999 is impacted by EN 60439-1:1999/A1:2004.

2) EN 60529:1991 is impacted by EN 60529:1991/A1:2000.

EN ISO 3745:2009, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Precision methods for anechoic and semi-anechoic rooms (ISO 3745:2003)*

EN ISO 3746:2010, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Survey method using an enveloping measurement surface over a reflecting plane (ISO 3746:2010)*

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

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

EN ISO 4871:2009, *Acoustics — Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)*

EN ISO 9614-1:2009, *Acoustics — Determination of sound power levels of noise sources using sound intensity — Part 1: Measurement at discrete points (ISO 9614-1:1993)*

EN ISO 11202:2010, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions applying approximate environmental corrections (ISO 11202:2010)*

EN ISO 11204:2010, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions applying accurate environmental corrections (ISO 11204:2010)*

EN ISO 11688-1:2009, *Acoustics — Recommended practice for the design of low-noise machinery and equipment — Part 1: Planning (ISO/TR 11688-1:1995)*

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

EN ISO 13849-1:2008, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2006)*

EN ISO 13850:2008, *Safety of machinery — Emergency stop — Principles for design (ISO 13850:2006)*

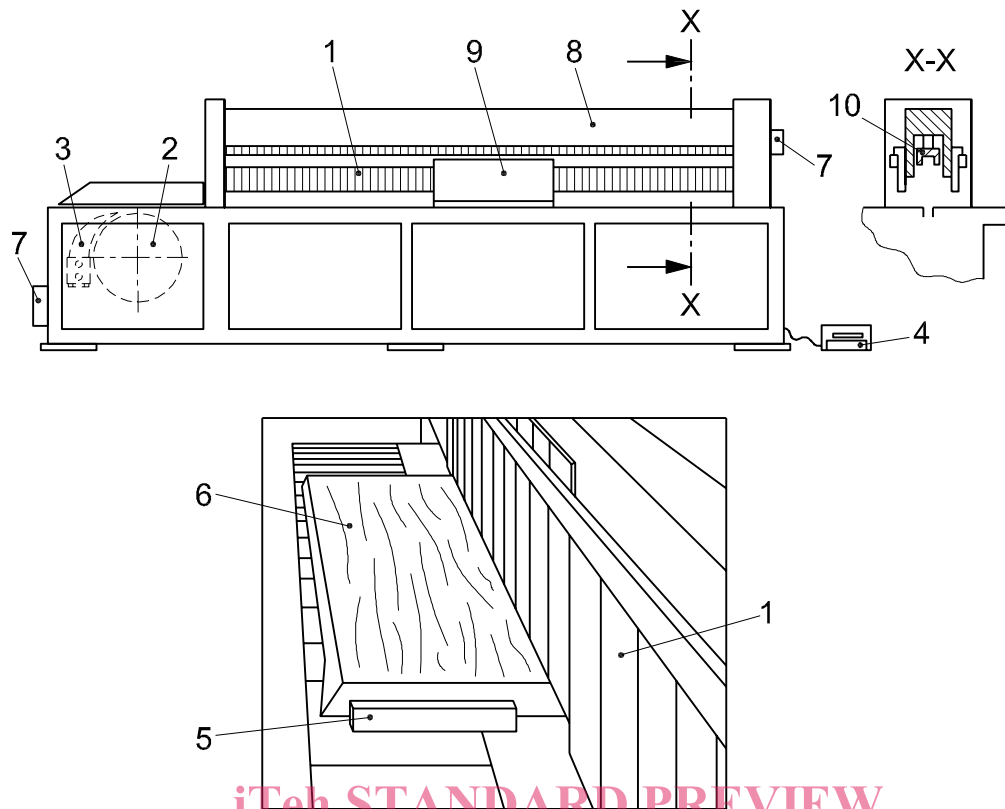
EN ISO 13857:2008, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)*

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

3 Terms and definitions

For the purpose of this document, the terms and definitions given in EN ISO 12100:2010 and the following apply.

NOTE The main parts of manually loaded and/or unloaded single blade edging circular rip sawing machines with power driven saw unit and their terminology are illustrated in Figure 1.

**Key**

- 1 sectional safety curtain
- 2 saw blade in rest position
- 3 riving knife
- 4 foot-pedal
- 5 workpiece end stop
- 6 workpiece
- 7 extraction outlet
- 8 sectional safety curtain support
- 9 front deterring/impeding device (on machines with raising and lowering of the saw unit at alternative positions)
- 10 workpiece clamping device (pressure beam) (optional)

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Figure 1 — Terminology of machine parts

3.1 single blade edging circular rip sawing machines with power driven saw unit and manual loading and/or unloading

machine where the workpiece is supported in the horizontal plane during cutting, the saw unit is mounted below the workpiece and the cutting stroke is power driven

Note 1 to entry: The saw blade is automatically raised through the slot in the worktable and is retracted from the workpiece for the return stroke. The machine is designed to cut against the feed in a single straight line only (see Figure 1).

The machine may have any of the following features:

- adjustment of the height of the saw unit;
- limitation of the cutting stroke length;
- workpiece clamping;

- the facility to vary the feed speed;
- powered movement of the fence;
- the facility to allow raising and lowering of the saw unit at alternative positions;
- the facility for multiple cutting.

3.2

workpiece end stop

adjustable end stop to hold the workpiece in the direction of the line of cut

Note 1 to entry: See Figure 1.

3.3

saw unit rest position

position to which the saw unit returns at the end of each cutting cycle

Note 1 to entry: See Figure 1.

3.4

sectional safety curtain

device to prevent inadvertent access to the saw blade during the cutting stroke

Note 1 to entry: See Figure 1.

3.5

workpiece clamping device

optional device which extends over the full cutting length of the machine

Note 1 to entry: Clamping can be achieved either by a pressure beam between the sectional safety curtains (see Figure 1) or the sectional safety curtain support is designed to also be the clamping device.

3.6

multiple cutting

cutting where the fence position is controlled so as to allow several cutting strokes for the same workpiece

3.7

machine actuator

power mechanism used to effect motion of the machine

3.8

integrated feed

feed mechanism for the (workpiece or) tool which is integrated with the machine and where the (workpiece or) machine element with incorporated tool is (are) held and controlled mechanically during the machining operation

Note 1 to entry: The words in brackets are not applicable to the machines covered by this document.

3.9

ejection

unexpected movement of the workpiece or parts of it or part of the machine from the machine during processing

3.10

run-up time

time elapsed from the actuation of the start control device until the spindle reaches the intended speed

EN 1870-8:2012 (E)**3.11****run-down time**

time elapsed from the actuation of the stop control device up to spindle standstill

3.12**manual loading of edging circular rip saws**

operation, where the operator positions the workpiece on the workpiece support at the cutting position i.e. there is no intermediate loading device to receive and transfer the workpiece from the operator to the cutting position

3.13**manual unloading of edging circular rip saws**

operation, where the operator removes the workpiece from the workpiece support at the cutting position, i.e. there is no intermediate unloading device to transfer the workpiece from the cutting position to the operator

3.14**speed range**

range of speeds for which the saw spindle or integrated feed are designed to operate

3.15**information from the supplier**

statements, sales literature, leaflets or other documents where the manufacturer (or supplier) declares either the characteristics or the compliance of the material or product to a relevant standard

3.16**safety appliance**

additional device which is not an integral part of the machine but which assists the operator in the safe feeding of the workpiece

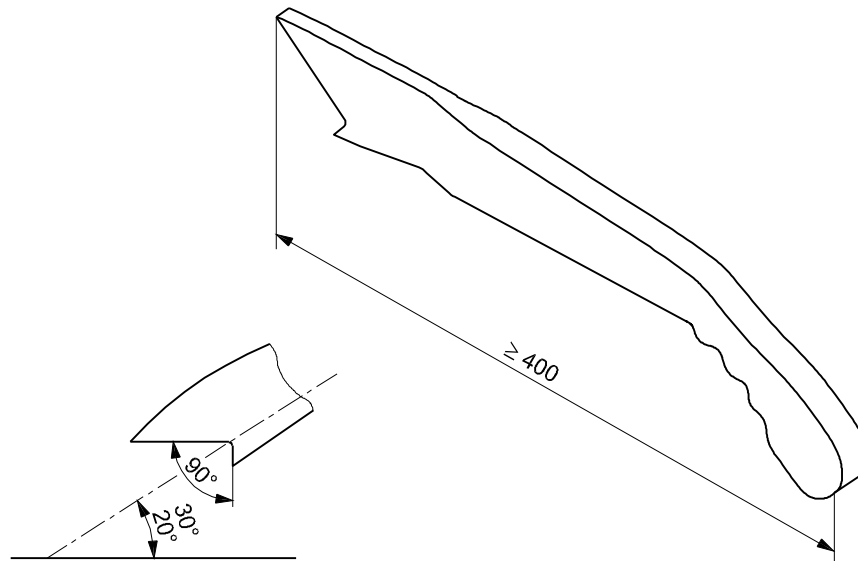
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Note 1 to entry: See Figure 2.

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Dimensions in millimetres



a) Example of push stick



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b) Example of push block

Key

1 push block handle

Figure 2 — Example of push stick and push block**3.17****performance level**

PL

discrete level used to specify the ability of safety-related parts of control systems to perform a safety function under foreseeable conditions

[SOURCE: EN ISO 13849-1:2008, 3.1.23]

4 List of significant hazards

This clause contains all significant hazards, hazardous situations and events (see EN ISO 12100:2010), identified by risk assessment as significant for the machines as defined in the scope and which require action to eliminate or reduce the risk. This document deals with these significant hazards by defining safety requirements and/or measures or by reference to relevant standards.

These hazards are listed in Table 1.