SLOVENSKI STANDARD
SIST EN 1870-6:2018

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Varnost lesnoobdelovalnih strojev - Krožne žage - 6. del: Krožne žage za drva

Safety of woodworking machines - Circular sawing machines - Part 6: Circular sawing machines for fire wood

Sicherheit von Holzbearbeitungsmaschinen - Kreissägemaschinen - Teil 6: Brennholzkreissägemaschinen

Sécurité des machines pour le travail du bois - Machines à scies circulaires - Partie 6: Scies circulaires à bois de chauffage

Ta slovenski standard je istoveten z: **EN 1870-6:2017**

ICS:

25.080.60	Strojne žage	Sawing machines
79.120.10	Lesnoobdelovalni stroji	Woodworking machines

SIST EN 1870-6:2018 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

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ICS 79.120.10

Supersedes EN 1870-6:2002+A1:2009

English Version

Safety of woodworking machines - Circular sawing machines - Part 6: Circular sawing machines for fire wood

Sécurité des machines à bois - Machines à scies circulaires - Partie 6 : Scies circulaires à bois de chauffage

Sicherheit von Holzbearbeitungsmaschinen - Kreissägemaschinen - Teil 6: Brennholzkreissägemaschinen

This European Standard was approved by CEN on 27 February 2017.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 1870-6:2017) 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of an identical text or by endorsement, at the latest by May 2018, and conflicting national standards shall be withdrawn at the latest by May 2018.

This document supersedes EN 1870-6:2002+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 EU Directive(s).

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

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

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 the Introduction of EN ISO 12100:2010 for a description of A, B and C standards).

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

— *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 fire wood*;

— *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*;

— *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 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 (radial arm saws)*;

— *Part 18: Dimension saws*;

— *Part 19: Circular saw benches (with and without sliding table) and building site saws*.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This document has been prepared to be a harmonized 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 European Committee for Standardization (CEN) draws attention to the fact that it is claimed that compliance with this document may involve the use of patents concerning pivoting log carriage given in 5.3.6.1.

CEN takes no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has ensured CEN that he/she is willing to negotiate licences either free of charge or under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with CEN. Information may be obtained from:

name of holder of patent right: Scheppach

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name of holder of patent right: Posch

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

CEN and CENELEC maintain online lists of patents relevant to their standards. Users are encouraged to consult the lists for the most up to date information concerning patents (ftp://ftp.cencenelec.eu/EN/IPR/Patents/IPRdeclaration.pdf).

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

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 in accordance with the requirements of the provisions of this type C standard.

The requirements of this document concern manufacturers and their authorized representatives of circular sawing machines for firewood. It is also useful for designers.

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

Common requirements for tooling are given in EN 847-1:2013.

1 Scope

This European Standard deals with all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to circular sawing machines for firewood with manual loading and/or unloading with hand operated carriage, hereinafter referred to as “machines”, designed to cut solid wood when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse.

This European Standard is not applicable to:

a) combined circular sawing machines for firewood with additional units, i.e. log splitting units or circular saw bench units;

NOTE 1 Circular saw benches are dealt with in EN 1870–19:2013.

NOTE 2 Log splitting machines are dealt with in EN 609–1:2017 and EN 609–2:1999+A1:2009.

NOTE 3 A draft is under consideration to cover “combined firewood processors”.

b) machines where the saw blade is capable of tilting;

c) log sawing machines where the saw unit moves to cut the workpiece;

d) hand-held motor-operated electric tools or any adaptation permitting their use in a different mode, i.e. bench mounting;

NOTE 4 Hand-held motor-operated electric tools and saw benches to form an integrated whole with a hand-held motor-operated electric tools are covered by EN 62841–1:2015 together with EN 60745–2–5:2010.

For RIC engines driven machines hazard of engine electrical starting systems above 24 V are not dealt with in this standard.

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

NOTE 5 Machines covered by this document are listed under 1.1 and/or 1.2 of Annex IV of the Machinery Directive.

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 614-1:2006+A1:2009, *Safety of machinery - Ergonomic design principles - Part 1: Terminology and general principles*

EN 847-1:2013, *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*

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

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

EN 50178:1997, *Electronic equipment for use in power installations*

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 50525-2-21:2011, *Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V (Uo/U) - Part 2-21: Cables for general applications - Flexible cables with crosslinked elastomeric insulation*

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

EN 60439-1:1999[2)], *Low-voltage switchgear and controlgear assemblies — Part 1: Type-tested and partially type-tested assemblies (IEC 60439-1:1999)*

EN 60529:1991[3)], *Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989)*

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 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 methods for an essentially free field over a reflecting plane (ISO 3744:2010)*

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1) EN 60204-1:2006 is impacted by EN 60204-1:2006/A1:2009 and EN 60204-1:2006/corrigendum Feb. 2010.

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

3) EN 60529:1991 is impacted by EN 60529:1991/A1:2000, EN 60529:1991/A2:2013 and EN 60529:1991/corrigendum May 1993.

EN ISO 3745:2012, *Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Precision methods for anechoic rooms and hemi-anechoic rooms (ISO 3745:2012)*

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 4254-1:2015, *Agricultural machinery - Safety - Part 1: General requirements (ISO 4254-1:2013)*

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 11102-1:2009, *Reciprocating internal combustion engines - Handle starting equipment - Part 1: Safety requirements and tests (ISO 11102-1:1997)*

EN ISO 11102-2:2009, *Reciprocating internal combustion engines - Handle starting equipment - Part 2: Method of testing the angle of disengagement (ISO 11102-2:1997)*

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 13732-1:2008, *Ergonomics of the thermal environment - Methods for the assessment of human responses to contact with surfaces - Part 1: Hot surfaces (ISO 13732-1:2006)*

EN ISO 13849-1:2015, *Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design (ISO 13849-1:2015)*

EN ISO 13849-2:2012, *Safety of machinery - Safety-related parts of control systems - Part 2: Validation (ISO 13849-2:2012)*

EN ISO 13850:2015, *Safety of machinery - Emergency stop function - Principles for design (ISO 13850:2015)*

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

EN ISO 14314:2009, *Reciprocal internal combustion engines - Recoil starting equipment - General safety requirements (ISO 14314:2004)*

ISO 2261:1994, *Reciprocating internal combustion engines — Hand-operated control devices — Standard direction of motion*

ISO 6826:1997, *Reciprocating internal combustion engines — Fire protection*

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

ISO 8999:2001, *Reciprocating internal combustion engines — Graphical symbols*

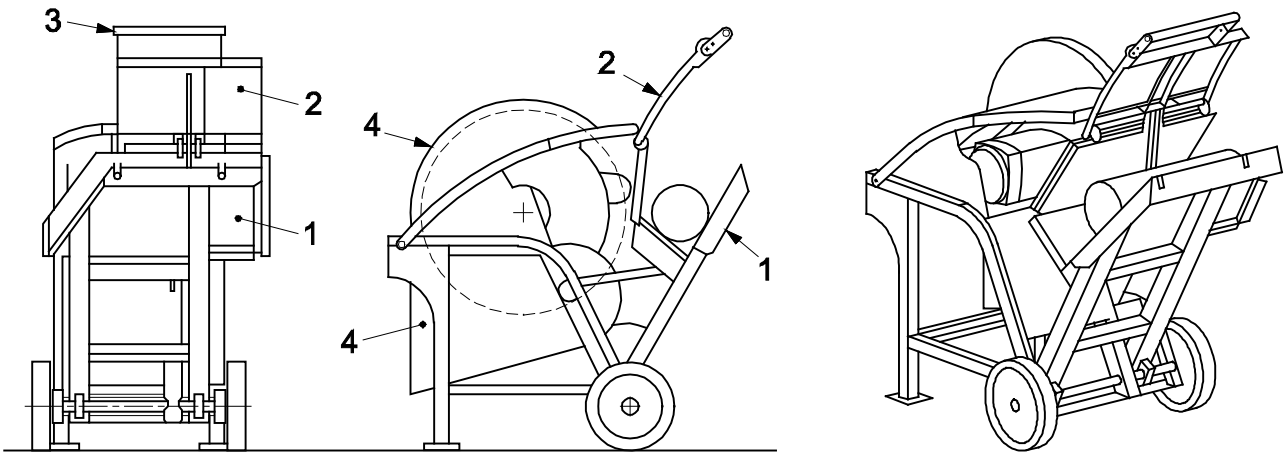
3 Terms and definitions

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

3.1
cross-cutting
operation of cutting across the grain of a wooden workpiece

3.2
circular sawing machine for firewood
sawing machine for cross-cutting logs for firewood, with a single saw blade driven by either an electric motor, or a hydraulic unit integral to the tractor or a Power Take Off (PTO) device and which has manual loading and/or unloading

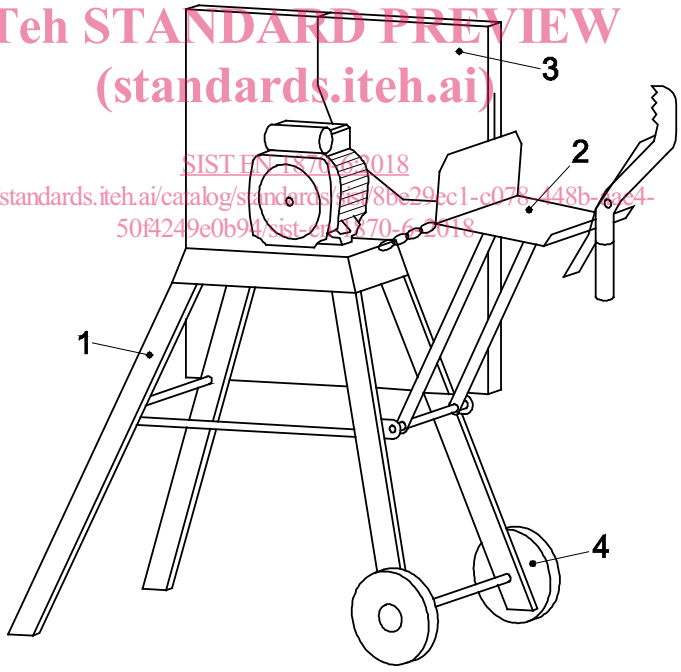
Note 1 to entry: The different types of circular sawing machines for firewood and the main parts of the machine are illustrated in Figures 1, 2 and 3:



Key

1 pivoting log carriage
2 moveable guard
3 handle
4 saw blade guard

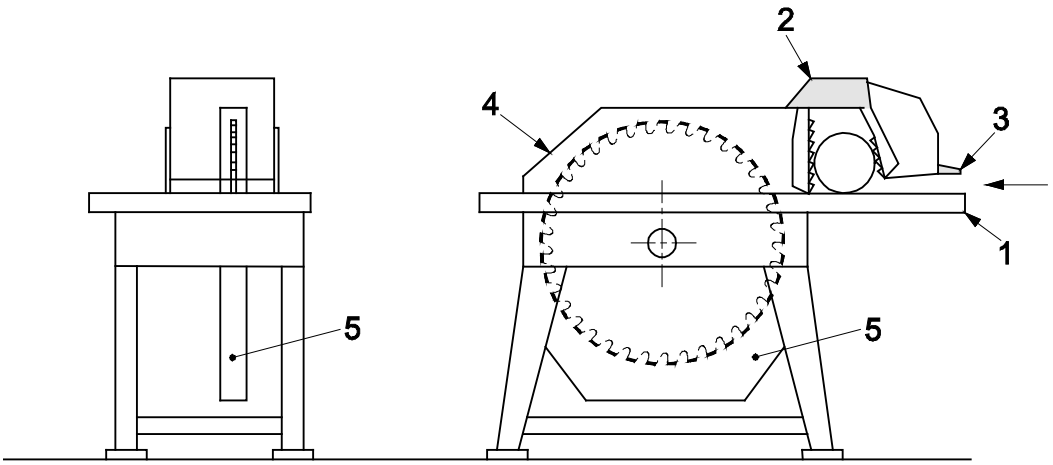
Figure 1 — Example 1 of a circular sawing machine for firewood



Key

1 frame
2 pivoting log carriage and clamp
3 hinged guard
4 device for transportation

Figure 2 — Example 2 of a circular sawing machine for firewood



Key

1 sliding table
2 log holding device
3 handle
4 fixed guard mounted on the table
5 fixed guard below the table

Figure 3 — Example 3 of a circular sawing machine for firewood

Note 2 to entry: The workpiece is moved manually to the saw blade either by:

— a pivoting log carriage (circular sawing machine for firewood with pivoting log carriage – see Figure 1 or Figure 2); or
— a sliding table with a log holding device (circular sawing machine for firewood with sliding table – see Figure 3)

3.3
log holding device
device manually actuated by the operator which hold the log in position during cutting

3.4
stationary machine
machine designed to be located on or fixed to the floor or other parts of the structure of the premises and to be stationary during use

3.5
displaceable machine
machine which is located on the floor stationary during use and equipped with a device, normally wheels, which allows it to be moved between locations

3.6
machine actuator
power mechanism used to effect motion of the machine

3.7
hand feed
manual holding and/or manual guiding of the workpiece (or of a machine element incorporating a tool) which includes the use of a hand operated carriage on which the workpiece is placed manually and clamped (and the use of a demountable power feed unit)

Note 1 to entry: The words in brackets are not applicable to this machine.

3.8
ejection
unexpected projection of the workpiece or parts of it or of an element of the machine from the machine during processing

3.9
run-down time
time elapsed from the actuation of the stop control up to the saw blade standstill

3.10
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 or specification

3.11
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 13849-1:2015, 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.