ICS 79.120.10 SLOVENSKÁ TECHNICKÁ NORMA Máj 2015

| STN | **Bezpečnosť drevárskych strojov. Kotúčové píly. Časť 3: Horné kotúčové píly na priečne rezanie a kombinované horné kotúčové píly na priečne rezanie/stolové kotúčové píly.** | **STN EN 1870-3**<br><br>49 6130 |
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Safety of woodworking machines - Circular sawing machines - Part 3: Down cutting cross-cut saws and dual purpose down cutting cross-cut saws/circular saw benches

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

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 04/15

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN 1870-3

November 2014

ICS 79.120.10

Supersedes EN 1870-3:2001+A1:2009

English Version

# Safety of woodworking machines - Circular sawing machines - Part 3: Down cutting cross-cut saws and dual purpose down cutting cross-cut saws/circular saw benches

Sécurité des machines pour le travail du bois - Machines à scies circulaires - Partie 3: Tronçonneuses à coupe descendante et tronçonneuses mixtes à coupe descendante et à scies circulaires à table de menuisier

Sicherheit von Holzbearbeitungsmaschinen - Kreissägemaschinen - Teil 3: Von oben schneidende Kappsägemaschinen und kombinierte Kapp- und Tischkreissägemaschinen

This European Standard was approved by CEN on 11 October 2014.

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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**



Ref. No. EN 1870-3:2014 E

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# Foreword

This document (EN 1870-3:2014) 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of an identical text or by endorsement, at the latest by May 2015, and conflicting national standards shall be withdrawn at the latest by May 2015.

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 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.

The main modifications compared to EN 1870-3:2001+A1:2009 relate to the introduction of performance levels (PL) for control systems and to the following items:

— clarification of controls positions in 5.2.2;

— addition of PL where missing;

— addition of requirements on mode selection in 5.2.7 and on prevention of automatic restart in 5.2.8;

— deletion of material requirements on flanges in 5.3.3.3;

— addition of requirements on braking system in 5.3.4;

— up-date of references;

— addition of requirements in 5.4.3 on chips and dust performances;

— limitation of tightening torque for riving knife mounting screws in Annex B.

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

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: Multi-blade rip sawing machines with manual loading and/or unloading;

— Part 5: Circular saw benches/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;

— 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 (manual 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 organizations 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.

# 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 European Standard is a type “C” standard as defined in EN ISO 12100:2010.

The extent to which hazards are covered is 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 according to the provisions of this type C standard.

The requirements of this document are directed to manufacturers and their authorized representatives of down cutting cross-cut saws and dual purpose down cutting cross -cut saws/circular saw benches. They are 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.

Electrically driven machines excluded by the scope of this document are covered by the requirements of EN 61029-1:2000, EN 61029-2-9:2009 and EN 61029-2-11:2009.

# 1 Scope

This European Standard deals with all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to down cutting cross-cut saws and dual purpose down cutting cross-cut saws/circular saw benches, herein after referred to as “machines”, designed to cut solid wood, chipboard, fibreboard, plywood and also these materials where they are covered with plastic edging and/or plastic/light alloy laminates when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse.

NOTE 1 For the definition of down cutting cross-cut saws and dual purpose down cutting cross -cut saws/circular saw benches, see 3.2.2, 3.2.3 and 3.2.4, and for the definition of displaceable machine, see 3.2.8.

This document does not apply to:

— machines for cross cutting logs;

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

NOTE 2 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 60745-1:2009 together with EN 60745-2–5:2010.

— transportable machines set up on a bench or a table similar to a bench, which are intended to carry out work in a stationary position, capable of being lifted by one person by hand i.e. maximum mass ≤ 25 kg.

NOTE 3 Transportable motor-operated electric tools are covered by the requirements of EN 61029-1:2009 together with EN 61029-2–9:2009 and EN 61029-2–11:2009.

This document is not applicable to down cutting cross-cut saws and dual purpose down cutting cross-cut saws/circular saw benches which are manufactured before the date of its publication as European Standard.

# 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 574:1996+A1:2008, *Safety of machinery - Two-hand control devices - Functional aspects - Principles for design*

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 953:1997+A1:2009, *Safety of machinery - Guards - General requirements for the design and construction of fixed and movable guards*

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

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

EN 1870-19:2013, *Safety of woodworking machines - Circular sawing machines - Part 19: Circular saw benches (with and without sliding table) and building site saws*

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 + A1:2004)*

EN 60529:1991 [3)], *Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989 + A1:1999)*

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 61496-2:2013, *Safety of machinery - Electro-sensitive protective equipment - Part 2: Particular requirements for equipment using active opto-electronic protective devices (AOPDs) (IEC 61496-2:2013)*

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

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)*

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1) EN 60204-1:2006 is amended by EN 60204-1:2006/A1:2009, based on IEC 60204-1:2005/A1:2008.

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 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)*

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 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 13856-1:2013, *Safety of machinery - Pressure-sensitive protective devices - Part 1: General principles for design and testing of pressure-sensitive mats and pressure-sensitive floors (ISO 13856-1:2013)*

EN 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 13856-2:2013)*

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 14119:2013, *Safety of machinery - Interlocking devices associated with guards - Principles for design and selection (ISO 14119:2013)*

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

ISO 14118:2000, Safety of machinery — Prevention of unexpected start-up