

SVENSK STANDARD

SS-EN 1870-15:2012



Fastställt/Approved: 2012-10-20
Publicerad/Published: 2012-10-22
Utgåva/Edition: 2
Språk/Language: engelska/English
ICS: 14.320; 79.120.10

Träbearbetningsmaskiner – Maskinsäkerhet – Cirkelsågar – Del 15: Flerbladiga kapsågar med maskinell inmatning av arbetsstycke

Safety of woodworking machines – Circular sawing machines – Part 15: Multi-blade cross-cut sawing machines with integrated feed of the workpiece and manual loading and/or unloading

This preview is downloaded from www.sis.se. Buy the entire standard via <https://www.sis.se/std-87788>

Standarder får världen att fungera

SIS (Swedish Standards Institute) är en fristående ideell förening med medlemmar från både privat och offentlig sektor. Vi är en del av det europeiska och globala nätverk som utarbetar internationella standarder. Standarder är dokumenterad kunskap utvecklad av framstående aktörer inom industri, näringsliv och samhälle och befrämjar handel över gränser, bidrar till att processer och produkter blir säkrare samt effektiviserar din verksamhet.

Delta och påverka

Som medlem i SIS har du möjlighet att påverka framtida standarder inom ditt område på nationell, europeisk och global nivå. Du får samtidigt tillgång till tidig information om utvecklingen inom din bransch.

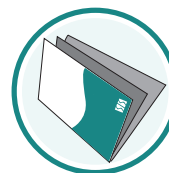
Ta del av det färdiga arbetet

Vi erbjuder våra kunder allt som rör standarder och deras tillämpning. Hos oss kan du köpa alla publikationer du behöver – allt från enskilda standarder, tekniska rapporter och standardpaket till handböcker och onlinetjänster. Genom vår webbtjänst e-nav får du tillgång till ett lättnavigerat bibliotek där alla standarder som är aktuella för ditt företag finns tillgängliga. Standarder och handböcker är källor till kunskap. Vi säljer dem.

Utveckla din kompetens och lyckas bättre i ditt arbete

Hos SIS kan du gå öppna eller företagsinterna utbildningar kring innehåll och tillämpning av standarder. Genom vår närhet till den internationella utvecklingen och ISO får du rätt kunskap i rätt tid, direkt från källan. Med vår kunskap om standarders möjligheter hjälper vi våra kunder att skapa verklig nytta och lönsamhet i sina verksamheter.

Vill du veta mer om SIS eller hur standarder kan effektivisera din verksamhet är du välkommen in på www.sis.se eller ta kontakt med oss på tel 08-555 523 00.



Standards make the world go round

SIS (Swedish Standards Institute) is an independent non-profit organisation with members from both the private and public sectors. We are part of the European and global network that draws up international standards. Standards consist of documented knowledge developed by prominent actors within the industry, business world and society. They promote cross-border trade, they help to make processes and products safer and they streamline your organisation.

Take part and have influence

As a member of SIS you will have the possibility to participate in standardization activities on national, European and global level. The membership in SIS will give you the opportunity to influence future standards and gain access to early stage information about developments within your field.

Get to know the finished work

We offer our customers everything in connection with standards and their application. You can purchase all the publications you need from us - everything from individual standards, technical reports and standard packages through to manuals and online services. Our web service e-nav gives you access to an easy-to-navigate library where all standards that are relevant to your company are available. Standards and manuals are sources of knowledge. We sell them.

Increase understanding and improve perception

With SIS you can undergo either shared or in-house training in the content and application of standards. Thanks to our proximity to international development and ISO you receive the right knowledge at the right time, direct from the source. With our knowledge about the potential of standards, we assist our customers in creating tangible benefit and profitability in their organisations.

If you want to know more about SIS, or how standards can streamline your organisation, please visit www.sis.se or contact us on phone +46 (0)8-555 523 00



Europastandarden EN 1870-15:2012 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 1870-15:2012.

Denna standard ersätter SS-EN 1870-15:2005+A1:2009, utgåva 1.

The European Standard EN 1870-15:2012 has the status of a Swedish Standard. This document contains the official version of EN 1870-15:2012.

This standard supersedes the Swedish Standard SS-EN 1870-15:2005+A1:2009, edition 1.

© Copyright/Upphovsrätten till denna produkt tillhör SIS, Swedish Standards Institute, Stockholm, Sverige. Användningen av denna produkt regleras av slutanvändarlicensen som återfinns i denna produkt, se standardens sista sidor.

© Copyright SIS, Swedish Standards Institute, Stockholm, Sweden. All rights reserved. The use of this product is governed by the end-user licence for this product. You will find the licence in the end of this document.

Upplysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna upplysningar om svensk och utländsk standard.

Information about the content of the standard is available from the Swedish Standards Institute (SIS), telephone +46 8 555 520 00. Standards may be ordered from SIS Förlag AB, who can also provide general information about Swedish and foreign standards.

Denna standard är framtagen av kommittén för Träbearbetningsmaskiner och -verktyg, SIS/TK 247.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på www.sis.se - där hittar du mer information.

EUROPEAN STANDARD

EN 1870-15

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2012

ICS 79.120.10

Supersedes EN 1870-15:2004+A1:2009

English Version

**Safety of woodworking machines - Circular sawing machines -
Part 15: Multi-blade cross-cut sawing machines with integrated
feed of the workpiece and manual loading and/or unloading**

Sécurité des machines pour le travail du bois - Machines à
scies circulaires - Partie 15: Machines à scier multi-lames
pour tronçonnage à avance mécanisée de la pièce et
chargement et/ou déchargement manuels

Sicherheit von Holzbearbeitungsmaschinen -
Kreissägemaschinen - Teil 15:
Mehrfachablängkreissägemaschinen mit mechanischem
Vorschub für das Werkstück und Handbeschickung
und/oder Handentnahme

This European Standard was approved by CEN on 4 August 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.

CEN members are the national standards bodies of 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 United Kingdom.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	4
Introduction	6
1 Scope	7
2 Normative references	7
3 Terms and definitions	9
3.1 General.....	9
3.2 Definitions	9
4 List of significant hazards	12
5 Safety requirements and/or measures	15
5.1 General.....	15
5.2 Controls	15
5.2.1 Safety and reliability of control systems.....	15
5.2.2 Position of controls	16
5.2.3 Starting	16
5.2.4 Normal stopping	17
5.2.5 Emergency stop.....	17
5.2.6 Integrated feed	18
5.2.7 Control duplication.....	18
5.2.8 Failure of the power supply	19
5.3 Protection against mechanical hazards	19
5.3.1 Stability	19
5.3.2 Risk of break-up during operation	19
5.3.3 Tool holder and tool design.....	20
5.3.4 Braking.....	22
5.3.5 Devices to minimise the possibility or the effect of ejection	23
5.3.6 Work-piece supports and guides	24
5.3.7 Prevention of access to moving parts.....	24
5.4 Protection against non-mechanical hazards	29
5.4.1 Fire	29
5.4.2 Noise	29
5.4.3 Emission of chips and dust.....	30
5.4.4 Electricity.....	31
5.4.5 Ergonomics and handling.....	31
5.4.6 Lighting.....	32
5.4.7 Pneumatic.....	32
5.4.8 Hydraulic.....	32
5.4.9 Electromagnetic compatibility.....	32
5.4.10 Laser	32
5.4.11 Static electricity	33
5.4.12 Errors of fitting.....	33
5.4.13 Isolation	33
5.4.14 Maintenance	34
6 Information for use	34
6.1 General.....	34
6.2 Warnings and warning devices	34
6.3 Marking	34
6.4 Instruction handbook	35
Annex A (normative) Saw spindle dimensional tolerances	39

Annex B (normative) Stability test for the deterring/impeding device required in 5.3.7.1.2	40
Annex C (normative) Operating conditions for noise emission measurement.....	41
Annex D (normative) Braking tests	43
D.1 Conditions for all tests.....	43
D.2 Tests	43
D.2.1 Un-braked run-down time	43
D.2.2 Braked run-down time.....	43
Annex E (normative) Impact test method for guards	44
E.1 General	44
E.2 Test method	44
E.2.1 Preliminary remarks	44
E.2.2 Testing equipment.....	44
E.2.3 Projectile for guards.....	44
E.2.4 Sampling.....	44
E.2.5 Test procedure.....	44
E.3 Results.....	45
E.4 Assessment	45
E.5 Test report.....	45
E.6 Test equipment for impact test	45
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC	47
Bibliography.....	50

SS-EN 1870-15:2012 (E)

Foreword

This document (EN 1870-15:2012) 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 April 2013, and conflicting national standards shall be withdrawn at the latest by April 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 1870-15:2004+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.

The main technical modification to the 2009 edition relates to the introduction of performance levels (PL).

Organisations contributing to the preparation of this document 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;*
- *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 (radial arm saws);*
- *Part 18: Dimension saws (at Enquiry 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.

SS-EN 1870-15:2012 (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.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this C type 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 authorised representatives of multi-blade cross-cut sawing machines with integral feed of the work-piece and manual loading and/or unloading. It is also useful for designers and importers.

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.

1 Scope

This European Standard specifies all requirements and/or measures to reduce the hazards and limit the risks on multi-blade cross-cut sawing machines (with minimum two saw unit) with integrated feed of the work-piece and manual loading and/or unloading fitted with a saw blade drive motor for each saw unit, hereinafter 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.

This document deals with all significant hazards, hazardous situations and events which are relevant to these machines as stated in Clause 4. It does not deal with any hazards relating to the mechanical loading and/or unloading of the work-piece or which result from the combination of the machine with any other.

This document does not cover machines designed for climb cutting (see 3.2.10).

The requirements of this document apply to all machines whatever their method of control e.g. electromechanical and/or electronic and/or pneumatic.

This document is not applicable to multi-blade cross-cut sawing machines with integrated feed of the work-piece and manual loading and/or unloading which are manufactured before the date of its publication as EN.

NOTE Machines covered by this document are listed under 1.3 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 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*

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