

**Träbearbetningsmaskiner – Maskinsäkerhet –
Cirkelsågar –**

Del 8: Enbladiga klyvsågar med rörlig sågenhet

**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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**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
scier circulaires - Partie 8: Déligneuses monolames à
déplacement mécanisé du groupe de sciage et à
chargement manuel et/ou déchargement manuel

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 30 September 2001.

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Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This European Standard has been prepared by CEN /TC 142 "Woodworking machines - Safety", the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by April 2002, and conflicting national standards shall be withdrawn at the latest by April 2002.

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 EC Directive(s).

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

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

The annexes A, B, C, D and E are normative and annexes F and ZA are informative.

This standard includes a Bibliography.

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 292-1 : 1991 for a description of A, B and C standards).

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

0 Introduction

This European Standard 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 European Standard is a type “C” standard as defined in EN 292-1 : 1991.

The extent to which hazards are covered is indicated in the scope of this European Standard.

The requirements of this European Standard concern designers, manufacturers, suppliers and importers of single blade edging circular rip sawing machines with power driven saw unit and manual loading and/or unloading.

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

Common requirements for tooling are given in EN 847-1 : 1997.

1 Scope

This European Standard sets out the requirements and/or the measures to remove the hazards and/or limit the risk on 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.

This European Standard covers the hazards relevant to these machines as stated in clause 4.

For Computer Numerically Controlled (CNC) machines this European Standard does not cover hazards related to Electro-Magnetic Compatibility (EMC).

This European Standard 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 European Standard does not apply to machines :

- where the workpiece is fed to the sawblade during cutting;
- designed specifically 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 European Standard is primarily directed at machines which are manufactured after the date of issue of this European Standard.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 292 - 1 : 1991	<i>Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology and methodology.</i>
EN 292 - 2 : 1991 EN 292-2/A1 : 1995	<i>Safety of machinery – Basic concepts, general principles for design - Part 2 : Technical principles and specifications.</i>

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EN 294 : 1992	<i>Safety of machinery - Safety distances to prevent danger zones being reached by the upper limbs.</i>
EN 349 : 1993	<i>Safety of machinery –Minimum distances to avoid crushing of parts of the human body.</i>
EN 418 : 1992	<i>Safety of machinery – Emergency stop equipment – Functional aspects – Principles for design.</i>
EN 847-1 : 1997	<i>Tools for woodworking - Safety requirements - Part 1 : Milling tools, Circular sawblades.</i>
EN 954-1 : 1996	<i>Safety of machinery - Safety related parts of control systems - Part 1 : General principles for design.</i>
EN 982 : 1996	<i>Safety of machinery – Safety requirements for fluid power systems and components – Hydraulics.</i>
EN 983 : 1996	<i>Safety of machinery - Safety requirements for fluid power systems and components – Pneumatics.</i>
EN 1088 : 1995	<i>Safety of machinery – Interlocking devices associated with guards – Principles for design and selection.</i>
EN 60204-1 : 1992	<i>Safety of machinery - Electrical equipment of Machines - Part 1 : General requirements (IEC 204-1 : 1992, modified).</i>
EN 60529 : 1991	<i>Degrees of protection provided by enclosures (IP Code) (IEC 60529 : 1989).</i>
EN 60825-1 : 1994	<i>Safety of lasers products – Equipment classification, requirements and user's guide (IEC 60825-1 : 1993).</i>
EN 60947-4-1 : 1992	<i>Low voltage switchgear and control gear - Part 4 : Electromechanical contactors and motor starters – Section 1 : Electromechanical contactors and motor starters (IEC 60947-4-1 : 1990).</i>
EN 60947-5-1 : 1997	<i>Low voltage switchgear and control gear - Part 5 : Control circuit devices and switching elements – Section 1 : Electromechanical control circuit devices (IEC 60947-5-1 : 1990).</i>
EN ISO 3743-1 : 1995	<i>Acoustics – Determination of sound power levels of noise sources using sound pressure – Engineering methods for small, moveable sources in reverberant fields – Part 1 : Comparison method for hard walled test rooms. (ISO 3743-1 : 1994).</i>
EN ISO 3743-2 : 1996	<i>Acoustics – Determination of sound power levels of noise sources – Engineering methods for small, moveable sources in reverberant fields - Part 2 : Method for special reverberation test rooms (ISO 3743-2 : 1994).</i>
EN ISO 3744 : 1995	<i>Acoustics – Determination of sound power levels of noise sources using sound pressure – Engineering method in an essentially free field over a reflecting plane (ISO 3744 : 1994).</i>
EN ISO 3746 : 1995	<i>Acoustics – Determination of sound power levels of noise sources using sound pressure – Survey method using an enveloping measurement surface over a reflecting plane (ISO 3746 : 1995).</i>
EN ISO 4871 : 1996	<i>Acoustics – Determination and verification of noise emission values of machinery and equipment (ISO 4871 : 1996).</i>
EN ISO 9614-1 : 1995	<i>Acoustics - Determination of sound power levels of noise sources using sound intensity - Part 1 : Measurement at discrete points. (ISO 9614-1 : 1993).</i>

EN ISO 11202 : 1995	<i>Acoustics - Noise emitted by machinery and equipment - Survey method for the measurement of emission sound pressure levels at the workstation and at other specified positions - Survey method in situ (ISO 11202 : 1995).</i>
EN ISO 11204 : 1995	<i>Acoustics - Noise emitted by machinery and equipment – Measurement of emission sound pressure levels at the workstation and at other specified positions – Method requiring environmental corrections (ISO 11204 : 1995).</i>
EN ISO 11688-1 : 1998	<i>Acoustics - Recommended practice for the design of low noise machinery and equipment - Part 1 : Planning (ISO/TR 11688-1 : 1995).</i>
ISO 286-2 : 1988	<i>ISO system of limits and fits – Part 2 : Tables of standard tolerance grades and limit deviations for holes and shafts.</i>
ISO 3745 : 1977	<i>Acoustics – Determination of sound power levels of noise sources - Precision methods for anechoic and semi-anechoic rooms.</i>
HD 21.1 S3 : 1997	<i>Polyvinyl chloride insulated cables of rated voltages up to and including 450/750V – Part 1 : General requirements.</i>
HD 22.1 S3 : 1997	<i>Rubber insulated cables of rated voltages up to and including 450/750V - Part 1 : General requirements.</i>

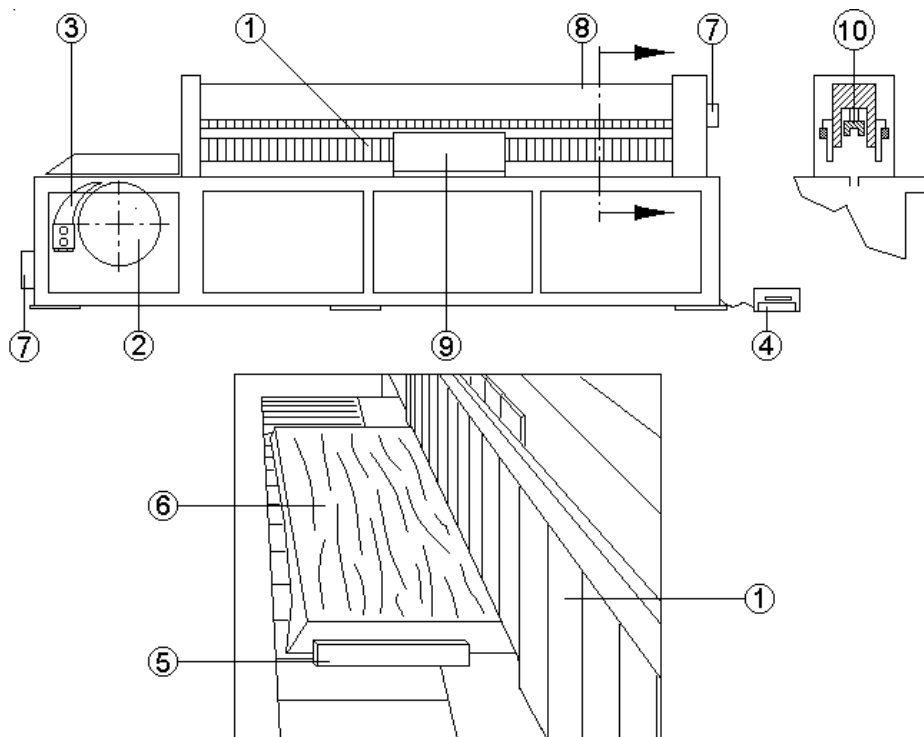
3 Terms and definitions

For the purpose of this European Standard the following terms and definitions apply.

3.1 Terms

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.

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- Key**
- 1 Sectional safety curtain
 - 2 Sawblade 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)

Figure 1 — Terminology

3.2 Definitions

3.2.1 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. The sawblade 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 :

- a) adjustment of the height of the saw unit;
- b) the facility to tilt the sawblade for angled cutting;
- c) limitation of the cutting stroke length;
- d) workpiece clamping;
- e) the facility to vary the feed speed;
- f) powered movement of the fence;

- g) the facility to allow raising and lowering of the saw unit at alternative positions;
- h) the facility for multiple cutting.

3.2.2

workpiece end stop

adjustable end stop to hold the workpiece in the direction of the line of cut (see Figure 1)

3.2.3

saw unit rest position

position to which the saw unit returns at the end of each cutting cycle (see Figure 1)

3.2.4

sectional safety curtain

device to prevent inadvertent access to the sawblade during the cutting stroke (see Figure 1)

3.2.5

workpiece clamping device

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

3.2.6

multiple cutting

where the fence position is under numeric control to allow several cutting strokes for the same workpiece

3.2.7

machine actuator

power mechanism used to effect motion of the machine

3.2.8

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 are held and controlled mechanically during the machining operation

3.2.9

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 e.g. see Figure 2

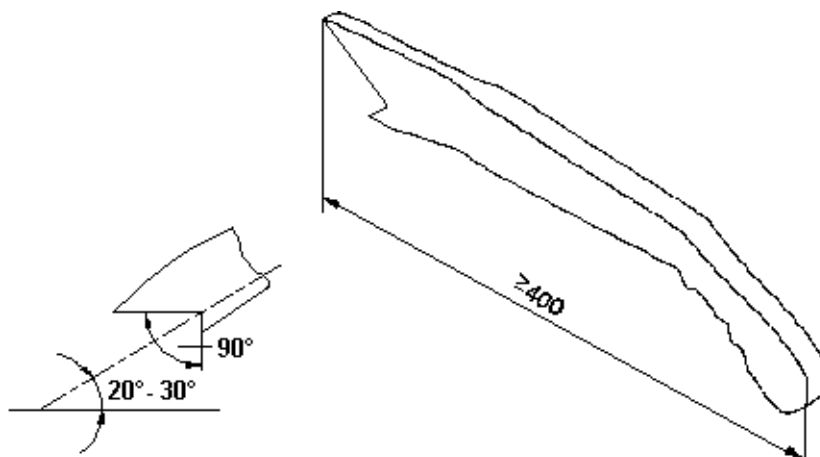


Figure 2a) — Example of push stick