

**Puidutöötlusmasinate ohutus. Kombineeritud  
puidutöötlusmasinad KONSOLIDEERITUD TEKST**

**Safety of woodworking machines - Combined  
woodworking machines CONSOLIDATED TEXT**

## EESTI STANDARDI EESSÕNA

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English Version

## Safety of woodworking machines - Combined woodworking machines

Sécurité des machines pour le travail du bois - Machines combinées pour le travail du bois

Sicherheit von Holzbearbeitungsmaschinen - Kombinierte Holzbearbeitungsmaschinen

This European Standard was approved by CEN on 10 July 2009 and includes Amendment 1 approved by CEN on 9 January 2012.

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## Foreword

This document (EN 940:2009+A1:2012) 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of an identical text or by endorsement, at the latest by August 2012, and conflicting national standards shall be withdrawn at the latest by August 2012.

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 includes Amendment 1, approved by CEN on 2012-01-09.

This document supersedes  $\text{A}_1$  EN 940:2009  $\text{A}_1$ .

The start and finish of text introduced or altered by amendment is indicated in the text by tags  $\text{A}_1$   $\text{A}_1$ .

$\text{A}_1$  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, see informative Annex ZA, which is an integral part of this document.  $\text{A}_1$



Organisation contributing to the preparation of this European standard include the European Association of Manufacturers of woodworking machines "EUMABOIS".

The main modifications to EN 940:1997 relate to exclusion of mortising unit driven by a separate motor, to the introduction of  $\text{A}_1$  performance levels (PL)  $\text{A}_1$  and requirements on electronic components for control systems.

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  $\text{A}_1$  EN ISO 12100:2010  $\text{A}_1$  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, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, 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.

## Introduction

This document has been prepared to be a harmonised standard to provide one means of conforming with the Essential Safety Requirements of the Machinery Directive and associated EFTA Regulations and 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 combined woodworking machines. They are also useful for designers.

This document also includes provisions and example of 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 document specifies all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to stationary and displaceable combined woodworking machines with two or more of only the following integrated units:

- surface planing,
- circular sawing (working simultaneously or not with vertical spindle moulding unit),
- vertical spindle moulding,
- boring [mortising] and
- thickness planing

hereinafter referred to as machines, designed to cut solid wood, chipboard, fibreboard, plywood, and also these materials where they are covered with plastic laminates or edging or veneer, when they are used as intended and under the conditions foreseen by the manufacturer <sup>[A1]</sup> including reasonably foreseeable misuse <sup>[A1]</sup>.

NOTE 1 For the definitions of stationary and displaceable machine see <sup>[A1]</sup> 3.2.12 and 3.2.13 <sup>[A1]</sup>.

NOTE 2 The specific requirements on demountable power feed unit will be considered during next revision of this document.

This document does not apply to:

- combined machines which consist only of a surface planing unit and a thickness planing unit;

NOTE 3 Combined machines consisting of only of a surface planing unit and a thickness planing unit are dealt with in <sup>[A1]</sup> EN 861:2007+A2:2012 <sup>[A1]</sup>.

- combined machines with a band saw unit;
- transportable motor-operated electric combined tools, or any adaptation permitting their use in a different mode, i.e. bench mounting;

NOTE 4 Transportable motor-operated electric combined tools are covered by the requirements of <sup>[A1]</sup> EN 61029-1:2009 <sup>[A1]</sup> and <sup>[A1]</sup> EN 61029-2-11:2009 <sup>[A1]</sup>.

- machines with mortising unit driven by a separate motor.

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

NOTE 5 <sup>[A1]</sup> Machines covered by this European Standard are listed under 5 of Annex IV of Machinery Directive 2006/42/EC. <sup>[A1]</sup>

## 2 Normative references

The following referenced documents are indispensable for the application of this document. 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, *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 847-1:2005+A1:2007, *Tools for woodworking — Safety requirements — Part 1: Milling tools, circular saw blades*

EN 848-1:2007+A2:2012, *Safety of woodworking machines — One side moulding machines with rotating tool — Part 1: Single spindle vertical moulding machines*

EN 859:2007+A2:2012, *Safety of woodworking machines — Hand fed surface planing machines*

EN 860:2007+A2:2012, *Safety of woodworking machines — One side thickness planing machines*

EN 861:2007+A2:2012, *Safety of woodworking machines — Surface planing and thicknessing machines*

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 display and control actuators — Part 3: Control actuators*

deleted text

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

prEN 1870-18:2011, *Safety of woodworking machines — Circular sawing machines — Part 1: Dimension saws*

deleted text

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

deleted text

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 <sup>A1</sup>, *Acoustics — Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)*

EN ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction (ISO 12100:2010)* <sup>A1</sup>

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

EN ~~deleted text~~ <sup>A1</sup>

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

<sup>A1</sup>

#### 3.1 General <sup>A1</sup>

For the purposes of this document the terms and definitions given in <sup>A1</sup> EN ISO 12100:2010 <sup>A1</sup>, in 3.1 of <sup>A1</sup> EN 847-1:2005+A1:2007 <sup>A1</sup> and the following apply:

NOTE The elements of combined machines and their terminology are illustrated in 3.3 of <sup>A1</sup> EN 848-1:2007+A2:2012 <sup>A1</sup>, <sup>A1</sup> EN 859:2007+A2:2012 <sup>A1</sup>, <sup>A1</sup> EN 860:2007+A2:2012 <sup>A1</sup>, <sup>A1</sup> EN 861:2007+A2:2012 <sup>A1</sup> and <sup>A1</sup> prEN 1870-18:2011 <sup>A1</sup> (see also Figure 3).

<sup>A1</sup>

#### 3.2 Definitions <sup>A1</sup>

##### 3.2.1

##### **combined machine**

machine incorporating two or more units such as planer, circular saw, spindle moulder, thicknesser, mortiser, and designed and constructed in such a way as to enable each unit to be used separately, where the workpiece is primarily fed by hand and manually removed between each operation as illustrated in Figures 1a), 1b) and 2a), 2b)

NOTE It can also have facilities for connection of a demountable power feed unit, for saw unit and moulding unit to work at the same time, for grooving (with saw unit), for post formed edge pre-cutting (with saw unit).

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<sup>1)</sup> EN ISO 13849-1:2006 superseded EN 954-1:1996.