Safety of woodworking machines - One side moulding machines with rotating tool - Part 1: Single spindle vertical moulding machines CONSOLIDATED TEXT

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

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NATIONAL FOREWORD

See Eesti standard EVS-EN 848-1:2007+A2:2012 sisaldab Euroopa standardi EN 848-1:2007+A2:2012 ingliskeelset teksti.	This Estonian standard EVS-EN 848-1:2007+A2:2012 consists of the English text of the European standard EN 848-1:2007+A2:2012.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 26.09.2012.	Date of Availability of the European standard is 26.09.2012.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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English Version

Safety of woodworking machines - One side moulding machines with rotating tool - Part 1: Single spindle vertical moulding machines

Sécurité des machines pour le travail du bois - Machines à fraiser sur une face, à outil rotatif - Partie 1 : Toupies monobroche à arbre vertical

Sicherheit von Holzbearbeitungsmaschinen - Fräsmaschinen für einseitige Bearbeitung mit drehendem Werkzeug - Teil 1: Einspindelige senkrechte Tischfräsmaschinen

This European Standard was approved by CEN on 13 January 2007 and includes Amendment 1 approved by CEN on 3 October 2009 and Amendment 2 approved by CEN on 13 August 2012.

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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.

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

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Foreword

This document (EN 848-1:2007+A2:2012) 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 March 2013, and conflicting national standards shall be withdrawn at the latest by March 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 includes Amendment 1, approved by CEN on 2009-10-03, Corrigendum 1, issued by CEN on 2008-11-26 and Amendment 2 approved by CEN on 2012-08-13.

This document supersedes [A2] EN 848-1:2007+A1:2009 [/A2].

The start and finish of text introduced or altered by amendment is indicated in the text by tags [A1] [/A1] and [A2] [/A2].

The modifications of the related CEN Corrigendum have been implemented at the appropriate places in the text and are indicated by the tags [AC] [/AC].[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 [A1] Machinery Directives [/A1].

[A2] For relationship with EU Directive, see informative Annex ZA, which is an integral part of this document. [/A2]

Organisation contributing to the preparation of this document include the European Association of Manufacturer of Woodworking Machines "EUMABOIS".

The European Standards produced by CEN/TC 142 are particular to woodworking machines and compliment the relevant A and B standards on the subject of general safety (see introduction of [A2] EN ISO 12100:2010 [/A2] for a description of A, B and C standards).

[A1] EN 848 *Safety of woodworking machines — One side moulding machines with rotating tool* consists of the following parts:

Part 1: Single spindle vertical moulding machines

Part 2: Single spindle hand fed/integrated fed routing machines

Part 3: Numerically controlled (NC) boring and routing machines [/A1]

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.

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1) Applicable to the French version.

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 stated in ⟨A2⟩ EN ISO 12100:2010 ⟨A2⟩.

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 are directed to manufacturers and their authorised representatives of single spindle vertical moulding machines. It is also useful for designers.

This document also includes provisions and examples of information to be provided by the manufacturer to the user.

Common requirements for tooling are given in ⟨A2⟩ EN 847-1:2005+A1:2007 ⟨A2⟩, EN 847-2:2001 and EN 847-3:2004.

1 Scope

This document [A1] specifies all significant [A1] hazards, hazardous situations and events as listed in Clause 4 which are relevant to stationary and displaceable hand fed single spindle vertical moulding machines (with or without demountable power feed unit), herein after referred to as "machines", designed to cut solid wood, chip board, fibreboard, plywood and also these materials if they are covered with plastic laminate or edgings when they are used as intended and under the conditions foreseen by the manufacturer [A2] including reasonably foreseeable misuse [A2].

[A2] Machines which are designed to work wood based materials may also be used for working hardened plastic materials with similar physical characteristics as wood. [A2]

NOTE 1 For the definition of stationary and displaceable machine see 3.2.17 and 3.2.18.

This document does not apply to:

a) machines equipped with outboard bearings;

b) machines equipped with powered movements of front extension table and/or tenoning [A2] sliding [A2] table;

c) hand held woodworking machines or any adaptation permitting their use in a different mode, i.e. bench mounting;

NOTE 2 Hand-held motor-operated electric tools are dealt with in [A2] EN 60745-1:2009 [A2] together with [A2] EN 60745-2-17:2010 [A2].

d) 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. The bench can also be an integrated part of the machine if it consists of hinged legs which can be extended down;

NOTE 3 Transportable motor-operated electric tools are dealt with in [A2] EN 61029-1:2009 [A2] together with [A2] EN 61029-2-8:2010 [A2].

This document is not applicable to hand fed single spindle vertical moulding machines which are manufactured before the date of its publication as EN.

NOTE 4 Machines covered by this document are listed under [A2] 7 [A2] of Annex IV of the Machinery Directive.

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.

[A1] *deleted text* [A1]

[A2] EN 847-1:2005+A1:2007 [A2], *Tools for woodworking — Safety requirements — Part 1: Milling tools, circular saw blades*

EN 847-2:2001, *Tools for woodworking — Safety requirements — Part 2: Requirements for the shank of shank mounted milling tools*

[A2] EN 847-3:2004, *Tools for woodworking — Safety requirements — Part 3: Clamping devices* [A2]

[A2] EN 894-1:1997+A1:2008 [A2], *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*

[A2] EN 894-2:1997+A1:2008 [A2], *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 2: Displays*

[A2] EN 894-3:2000+A1:2008 [A2], *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 3: Control actuators*

[A2] *deleted text* [A2]

[A2] EN 1005-1:2001+A1:2008 [A2], *Safety of machinery — Human physical performance — Part 1: Terms and definitions*

[A2] EN 1005-2:2003+A1:2008 [A2], *Safety of machinery — Human physical performance — Part 2: Manual handling of machinery and component parts of machinery*

[A2] EN 1005-3:2002+A1:2008 [A2], *Safety of machinery — Human physical performance — Part 3: Recommended force limits for machinery operation*

[A2] EN 1005-4:2005+A1:2008 [A2], *Safety of machinery — Human physical performance — Part 4: Evaluation of working postures and movements in relation to machinery*

[A2] EN 1037:1995+A1:2008 [A2], Safety *of machinery — Prevention of unexpected start-up*

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

EN 1837:1999, *Safety of machinery — Integral lighting of machines*

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 60204-1:2006, *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)], *Degree of protection provided by enclosure (IP code) (IEC 60529:1989)*

[A1] EN 61310-1:2008, *Safety of machinery — Indication, marking and actuation — Part 1: Requirements for visual, auditory and tactile signals (IEC 61310-1:2007)* [A1]

EN 61496-1:2004, *Safety of machinery — Electro sensitive protective equipment — Part 1: General requirements and tests (IEC 61496-1:2004, modified)*

[A2] *deleted text* [A2]

[A2] EN 61800-5-2:2007, *Adjustable speed electrical power drive systems — Part 5-2: Safety requirements — Functional (IEC 61800-5-2:2007)* [A2]

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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.

[A2] *deleted text* [A2]

[A2] EN ISO 3743-1:2010 [A2], [A2] *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)* [A2]

[A2] EN ISO 3743-2:2009 [A2], *Acoustics — Determination of sound power levels of noise sources using sound pressure — Engineering methods for small, movable sources in reverberant fields — Part 1: Methods for special reverberation test rooms (ISO 3743-2:1994)*

[A2] EN ISO 3744:2010 [A2], [A2] *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)* [A2]

[A2] EN ISO 3745:2009[4)] [A2], *Acoustics — Determination of sound power levels of noise sources using sound pressure — Precision methods for anechoic and semi-anechoic rooms (ISO 3745:2003)*

[A2] EN ISO 3746:2010 [A2], [A2] *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)* [A2]

[A2] 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)* [A2]

[A2] EN ISO 4871:2009 [A2], *Acoustics — Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)*

[A2] EN ISO 9614-1:2009 [A2], *Acoustics — Determination of sound power levels of noise sources using sound intensity — Part 1: Measurement at discreet points (ISO 9614-1:1993)*

[A2] EN ISO 11202:2010 [A2], [A2] *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)* [A2]

[A2] *deleted text* [A2]

[A2] EN ISO 11204:2010 [A2], [A2] *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)* [A2]

[A2] *deleted text* [A2]

[A2] EN ISO 11688-1:2009 [A2], *Acoustics — Recommended practice for the design of low-noise machinery and equipment — Part 1: Planning (ISO/TR 11688-1:1995)*

[A2] *deleted text* [A2]

[A2] EN ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction (ISO 12100:2010)* [A2]

[A1] EN ISO 13849-1:2008 [A1], *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2006)*

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4) EN ISO 3745:2009 is replaced by EN ISO 3745:2012.

[A1] EN ISO 13849-2:2008 [A1], *Safety of machinery — Safety-related parts of control systems — Part 2: Validation (ISO 13849-2:2003)*

[A2] EN ISO 13850:2008 [A2], *Safety of machinery — Emergency stop — Principles for design (ISO 13850:2006)*

[A1] EN ISO 13857:2008, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)* [A1]

ISO 7009:1983, *Woodworking machines — Single spindle moulding machines — Nomenclature and acceptance conditions*

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

3 Terms and definitions

3.1 General

For the purposes of this document, the terms and definitions given in [A2] EN ISO 12100:2010 [A2] and the following apply.

3.2 Definitions

3.2.1
single spindle vertical moulding machine
hand fed machine fitted with a single vertical spindle (fixed or removable) the position of which is fixed during machining and a horizontal table, all or part of which are fixed during operation. The spindle passes through the table and its drive motor is situated beneath the table. The machine may have any of the following features:

a) the facility for the spindle to be vertically adjustable relative to the table;

b) the facility to tilt the spindle;

c) the facility for fitting an additional manually operated tenoning [A2] sliding [A2] table;

d) the facility for the glass bead recovery;

e) the facility for an adjustable table insert

3.2.2
straight work
shaping of a work-piece with one face in contact with the table and a second with the fence, and where the work starts at one end of the work-piece and continues through to the other end (see Figure 1)