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Footwear, leather and imitation leather goods manufacturing
machines - Cutting and punching machines - Safety
requirements CONSOLIDATED TEXT

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 12044:2005+A1:2009 sisaldab Euroopa standardi EN 12044:2005+A1:2009 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 30.09.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 12.08.2009.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 12044:2005+A1:2009 consists of the English text of the European standard EN 12044:2005+A1:2009.

This standard is ratified with the order of Estonian Centre for Standardisation dated 30.09.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 12.08.2009.

The standard is available from Estonian standardisation organisation.

ICS 59.140.40, 61.060

Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

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English Version

Footwear, leather and imitation leather goods manufacturing machines - Cutting and punching machines - Safety requirements

Machines de fabrication de chaussures et d'articles en cuir et en matériaux similaires - Machines de coupe et de poinçonnage - Prescriptions de sécurité

Maschinen zur Herstellung von Schuhen, Leder- und Kunstlederwaren - Stanzmaschinen - Sicherheitsanforderungen

This European Standard was approved by CEN on 17 June 2005 and includes Corrigendum 1 issued by CEN on 13 December 2006 and Amendment 1 approved by CEN on 16 July 2009.

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Foreword

This document (EN 12044:2005+A1:2009) has been prepared by Technical Committee CEN/TC 201 "Leather and imitation leather goods and footwear manufacturing machinery - 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of an identical text or by endorsement, at the latest by February 2010, and conflicting national standards shall be withdrawn at the latest by February 2010.

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 12044:2005.

This document includes Amendment 1, approved by CEN on 2009-07-16 and includes Corrigendum 1 issued by CEN on 2006-12-13.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** and **A1**.

The modifications of the related CEN Corrigendum have been implemented at the appropriate places in the text and are indicated by the tags **AC** and **AC**.

This European Standard 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).

A1 For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. **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, 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 and United Kingdom.

0 Introduction

This European Standard is a type C standard as stated in EN ISO 12100-1.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this European Standard.

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 the other standards, for machines that have been designed and built according to the provisions of this type C standard.

This European Standard contains safety requirements for cutting and punching machines. It is aimed at designers, manufacturers, suppliers and importers.

1 Scope

1.1 This European Standard specifies safety requirements for ^{A1} the ^{A1} design and operation of the machines defined in 1.2.

It takes account of intended use, foreseeable misuse ^{A1} and ^{A1} component and system failure.

1.2 This European Standard applies for cutting and punching machines used in the manufacture of footwear, leather and imitation leather goods and other related components. This European Standard applies to the following cutting and punching machines:

- swing arm cutting presses with manual or powered swing arm;
- manual and automatic travelling head cutting presses with powered travelling head;
- manual and automatic beam cutting presses;
- punching and perforating presses;
- C-frame cutting presses.

1.3 This European Standard is not applicable to:

- mechanical presses;
- presses intended for working cold metal;
- fastening, riveting, stitching, stapling, bending or folding machines;
- guillotines, shears and similar machines;
- shoe and leather presses as described in EN 12203.

1.4 This European Standard deals with all significant hazards, hazardous situations and events relevant to the footwear, leather and imitation leather goods manufacturing machinery ^{A1} defined in 1.2 ^{A1}, when it is used as intended and under the conditions foreseen by the manufacturer (see Clause 4) and is intended for operation in applications by trained persons.

1.5 This European Standard deals with material feeding and handling devices, when attached to the machine.

1.6 This European Standard is not applicable to ^{A1} *deleted text* ^{A1} machines which are manufactured before the date of publication of this European Standard by CEN.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 294:1992, *Safety of machinery – Safety distance to prevent danger zones being reached by the upper limbs*

EN 349, *Safety of machinery – Minimum gaps to avoid crushing of parts of the human body*

EN 349, *deleted text*

EN 547-1, *Safety of machinery – Human body measurements – Part 1: Principles for determining the dimensions required for openings for whole body access into machinery*

EN 547-2, *Safety of machinery – Human body measurements – Part 2: Principles for determining the dimensions required for access openings*

EN 574:1996, *Safety of machinery – Two-hand controls devices – Functional aspects – Principles for design*

EN 894-1, *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, *Safety of machinery – Ergonomics requirements for the design of displays and control actuators – Part 2: Displays*

EN 894-3, *Safety of machinery – Ergonomics requirements for the design of displays and control actuators – Part 3: Control actuators*

EN 953:1997, *Safety of machinery – Guards – General requirements for the design and construction of fixed and movable guards*

EN 953:1997, *deleted text*

EN 981:1996, *Safety of machinery – System of auditory and visual danger and information signals*

EN 982:1996, *Safety of machinery – Safety requirements for fluid power systems and their components – Hydraulics*

EN 983:1996, *Safety of machinery – Safety requirements for fluid power systems and their components – Pneumatics*

EN 999, *Safety of machinery – The positioning of protective equipment in respect of approach speeds of parts of the human body*

EN 1005-3, *Safety of machinery – Human physical performance – Part 3: Recommended force limits for machinery operation*

EN 1088:1995, *Safety of machinery – Interlocking devices associated with guards – Principles for design and selection*

EN 1837, *Safety of machinery – Integral lighting of machines*

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

EN ISO 12100-1:2003, *Safety of machinery – Basic concepts, general principles for design – Part 1: Basic terminology, methodology (ISO 12100-1:2003)*

EN ISO 12100-2:2003, *Safety of machinery – Basic concepts, general principles for design – Part 2: Technical principles (ISO 12100-2:2003)*

▣_{A1} EN ISO 13849-1:2008, *Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design (ISO 13849-1:2006)* ▣_{A1}

▣_{A1} EN ISO 13850:2008, *Safety of machinery – Emergency stop – Principles for design (ISO 13850:2006)* ▣_{A1}

EN 12545:2000, *Footwear, leather and imitation leather goods manufacturing machines – Noise test code – Common requirements*

▣_{A1} EN ISO 14122-2 ▣_{A1}, *Safety of machinery – Permanent means of access to machinery – Part 2: Working platforms and walkways (ISO 14122-2:2001)*

▣_{A1} EN 60204-1:2006 ▣_{A1}, *Safety of machinery – Electrical equipment of machines – Part 1: General requirements* ▣_{A1} (IEC 60204-1:2005 (modified)) ▣_{A1}

EN 60529:1991, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989)*

EN 60947-4-1, *Low-voltage switchgear and controlgear – Part 4-1: Contactors and motor-starters - Electromechanical contactors and motor-starters (IEC 60947-4-1:2000)*

EN 60947-5-1, *Low-voltage switchgear and controlgear – Part 5-1: Control circuit devices and switching elements - Electro-mechanical control circuit devices (IEC 60947-5-1:2003)*

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

▣_{A1} CLC/TS 61496-2:2006, *Safety of machinery – Electro-sensitive protective equipment – Particular requirements for equipment using active optoelectronic protective devices (AOPDs) (IEC 61496-2:2006)* ▣_{A1}

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN ISO 12100-1:2003 apply. Additional definitions specifically needed for this European Standard are added below.

3.1

automatic cutting press

machine where the tool repeats continuously or intermittently all functions without manual intervention between each cycle (see also Figures 11 and 12)

3.2

beam cutting press

machine in which the striking surface is attached to the beam which moves vertically and is supported at either end (see also Figure 5)

NOTE In this type of machine the striking surface and the cutting surface are of approximately equal surface area.

3.3

beam cutting press with articulated die carrier not attached to the beam

beam cutting press equipped with an all-round movable cutting die support arm as well as a pivoted die support with centering and clamping device for chucking single cavity cutting dies (see also Figure 8)