



SLOVENSKI STANDARD
SIST EN 12203:2004+A1:2009

01-oktober-2009

Glavni namen tega standarda je določiti zahteve za varnost strojev za izdelavo obutve, kožnih in umetnih kožnih izdelkov - stroji za izdelavo obutve in kožnih presov - varnostne zahteve

Footwear, leather and imitation leather goods manufacturing machines - Shoe and leather presses - Safety requirements

Maschinen zur Herstellung von Schuhen, Leder- und Kunstlederwaren - Schuh- und Lederpressen - Sicherheitsanforderungen

Machines pour la fabrication des chaussures et articles chaussants en cuir et matériaux similaires - Presses pour la fabrication de chaussures et articles en cuir - Exigences de sécurité

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Ta slovenski standard je istoveten z: EN 12203:2003+A1:2009

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59.140.40	Stroji in oprema za proizvodnjo usnja in krzna	Machines and equipment for leather and fur production
61.060	Obuvala	Footwear

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EUROPEAN STANDARD
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Footwear, leather and imitation leather goods manufacturing machines - Shoe and leather presses - Safety requirements

Machines pour la fabrication des chaussures et articles chaussants en cuir et matériaux similaires - Presses pour la fabrication de chaussures et articles en cuir - Exigences de sécurité

Maschinen zur Herstellung von Schuhen, Leder- und Kunstlederwaren - Schuh- und Lederpressen - Sicherheitsanforderungen

This European Standard was approved by CEN on 1 November 2002 and includes Corrigendum 1 issued by CEN on 5 July 2006 and Amendment 1 approved by CEN on 16 July 2009.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

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Annex ZB (informative) **A1** Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC **A1**86

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Foreword

This document (EN 12203:2003+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 includes Amendment 1, approved by CEN on 2009-07-16 and includes Corrigendum 1 issued by CEN on 5 July 2006.

This document supersedes EN 12203:2003.

The start and finish of text introduced or altered by amendment is indicated in the text by tags $\boxed{A_1}$ $\boxed{A_1}$.

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

$\boxed{A_1}$ 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 EU Directive(s).

For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. $\boxed{A_1}$

$\boxed{A_1}$ Annexes A to O are normative. $\boxed{A_1}$

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.

Introduction

A1 This document is a type C standard as stated in EN ISO 12100.

The machinery concerned and the extent to which hazards, hazardous situations and hazardous 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 the other standards, for machines that have been designed and built according to the provisions of this type C standard. **A1**

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1 Scope

1.1 This European Standard is applicable to shoe and leather presses (see 3.1) used in the manufacture of footwear, leather and imitation leather goods and other related components. These machines are:

- Sole attaching presses (open and closed types);
- Sole and insole moulding machines;
- Back part moulding machines;
- Backer, lining and toe puff attaching presses;
- Ironing presses;
- Marking, stamping, labelling and embossing machines;
- Stitch marking machines;
- Upper preforming machines;
- Automatic shoe and leather presses;
- a) Premoulding machines for thermoplastic counters and counter forming machines;
- b) Integrated manufacturing systems;
- c) Presses with mobile stations and rotary configuration;
- Folding presses;
- Activating presses;
- Relasting and last slipping machines;
- Top piece attaching presses;
- Leather button covering machines.

1.2 This European Standard is not applicable to:

- Cutting and punching machines;

NOTE A1 See EN 12044. A1

- Eyelet, hook and decorative nail attaching machines;

A1 *deleted text* A1

- Presses used for shoe repair and orthopaedic works

NOTE A1 See EN 12387. A1

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1.3 This European Standard specifies safety requirements for construction, transport, installation, adjustment, setting, teaching or process change-over, operation, cleaning, maintenance, decommissioning, dismantling and, as far as safety is concerned, disposal for machines mentioned in 1.1.

It takes account of intended use, foreseeable misuse, component and system failure.

1.4 This European Standard covers significant hazards relevant to the footwear, leather and imitation leather goods manufacturing industries. (List of hazards see 4.)

This European Standard does not deal with precise technical measures for reducing the risks of fumes and dusts detrimental to health.

The use of machines within the scope of this European Standard in industries other than those specified in 1.1 can give rise to hazard not considered during its preparation.

1.5 This European Standard is also applicable to additional equipment for material handling and operation which are an integral part of the machine.

1.6 This European Standard assumes the machines

— are operated by adequately trained persons;

— are used with adequate workplace lighting conforming the local regulations or to EN 12464-1.

1.7 **A1** This document is not applicable to shoe and leather presses which are manufactured before the date of its publication as EN. **A1**

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2 Normative references

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A1 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**

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

EN 349:1993, *Safety of machinery – Minimum gaps to avoid crushing of parts of the human body*

A1 *deleted text* **A1**

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*

A1 *deleted text* **A1**

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

EN 614-1, *Safety of machinery – Ergonomic design principles – Part 1: Terminology and general principles*

EN 626-1:1994, *Safety of machinery – Reduction of risk to health from hazardous substances emitted by machinery – Part 1: Principles and specifications for machinery manufacturers*

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*

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

EN 983, *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*

[AC] EN 1005-2 **[AC]**, *Safety of machinery – Human physical performance – Part 2: Manual handling of machinery and component parts of machinery*

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

EN 1037, *Safety of machinery – Prevention of unexpected start-up*

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

EN 1760-1:1997, *Safety of machinery – Pressure sensitive protective devices – Part 1: General principles for the design and testing of pressure sensitive mats and pressure sensitive floors*

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 11688-2, *Acoustics – Recommended practice for the design of low-noise machinery and equipment – Part 2: Introduction to the physics of low-noise design (ISO/TR 11688-2:1998)*

[A1] EN ISO 12100-1:2003, *Safety of machinery – Basic concepts, general principles for design – Part 1: Basic terminology, methodology (ISO 12100-1:2003)* **[A1]**

[A1] EN ISO 12100-2:2003, *Safety of machinery – Basic concepts, general principles for design – Part 2: Technical principles (ISO 12100-2:2003)* **[A1]**

[A1] EN ISO 13732-1, *Ergonomics of the thermal environment – Methods for the assessment of human responses to contact with surfaces – Part 1: Hot surfaces (ISO 13732-1:2006)* **[A1]**

[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 12464-1, *Light and lighting – **[A1]** Lighting **[A1]** of work places – Part 1: Indoor work places.*

[A1] EN 12545:2000 **[A1]**, *Footwear, leather and imitation leather goods manufacturing machines – Noise test code – Common requirements*

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

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EN 60947-5-1, *Low-voltage switchgear and controlgear – Part 5-1: Control circuit devices and switching elements – Electromechanical control circuit devices* ^[A1] (IEC 60947-5-1:2003) ^[A1]

^[A1] EN 61496-1:2004, *Safety of machinery – Electro-sensitive protective equipment – Part 1: General requirements and tests* (IEC 61496-1:2004 (modified)) ^[A1]

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

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in ^[A1] EN ISO 12100-1:2003 ^[A1] shall apply. In addition, the following definitions apply.

3.1**shoe and leather press**

machine with closing movements for attaching, moulding, ironing, marking, stamping, labelling, embossing, preforming, folding, activating, relasting, last slipping and button covering

3.2**sole attaching press (see Figure 1)**

machine for attaching precemented soles to lasted uppers by pressure

3.3**sole and insole moulding machine (see Figure 2)**

machine used to preform soles and insoles to the shape of last bottom by means of moulds and pressure

3.4**back part moulding machine (see Figure 3)**

machine used for laminating upper counter and lining and preforming to the heel part shape of last by pressure and heat

3.5**backer, lining and toe puff attaching press (see e.g. Figure 4)**

machine used for laminating backer, lining and toe puffs to the upper by pressure and heat

3.6**ironing press (see e. g. Figure 5)**

machine used for attaching, smoothing, flattening and shaping the upper by pressure and heat

3.7**marking, stamping, labelling and embossing machine (see e.g. Figures 6 and 7)**

machine used for marking, designation and decoration of shoes, leather goods and related components by pressure and heat including sling-form presses

3.8**stitch marking machine (see Figure 8)**

machine used to mark the location of stitch seams and components on relevant workpieces by pressure and heat

3.9**upper preforming machine (see Figure 9)**

machine used to preshape uppers to style related requirements by pressure and heat

3.10**premoulding machine for thermoplastic counter (see Figure 10)**

machine used to shape thermo-plastic counter blanks to the last form by pressure and heat or by pressure heat and cooking

3.11**counter forming machine (automatic version see Figure 11)**

machine used to shape blanks made from fibre materials to the last form, by pressure

3.12**folding press (see Figure 12)**

machine used for bending and fastening edges of leather and imitation leather components by means of dies

3.13**activating press (see Figures 13/14)**

machine used for preparing the upper for toe lasting or back part moulding by pressure and heat

3.14**relasting and last slipping machine (see Figures 15/16)**

machine used to pull the closed upper over the last respectively to remove the shoe from the last

3.15**top piece attaching presses (see Figure 17)**

machine used to assemble the top piece to the heel by pressure

3.16**leather button covering machine (see Figure 18)**

machine which covers buttons, buckles and so on, with leather, textile or similar materials by pressure and crimping

3.17**automatic press**

machine where the tool repeats continuously or intermittently all functions without manual intervention between each working cycle.

3.18**integrated shoe and leather pressing manufacturing system**

shoe and leather press working together with other machines being controlled by a supervisory system

3.19**frame-type construction (see Figure 1)**

construction consisting of vertical and horizontal elements between which access from the rear side is possible

3.20**dangerous movement**

motion of a part of the machine which may give rise to injury

3.21**danger point**

point on shoe and leather presses which may give rise to personal injury due to controlled-path movements of drives, machinery parts, tools or workpieces

3.22**fixed cover**

fixed guard installed to prevent alone, or together with other parts, access to the danger zones from the covered side

3.23**movable cover**

movable guard, installed to prevent alone, or together with other parts, access to the danger zones from the covered side

3.24**fixed enclosing guard**

fixed guard which prevents access to a danger zone by enclosure from all sides

EN 12203:2003+A1:2009 (E)**3.25****movable enclosing guard**

movable guard which prevents access to a danger zone by enclosure from all sides

3.26**fencing**

guards around danger zones of a machine or plant which prevents access from the outside

3.27**working cycle**

all machine movements needed to complete a single process

3.28**work piece**

footwear or footwear component being processed

3.29**pressure sensitive mats and floors**

see EN 1760-1:1997

3.30**pressure sensitive edges and bars**

safety devices with linear configuration which actuate a sensor by local deformation

3.31**tray feeder (see e. g. Figures 4, 6, 12)**

sliding table used to load and unload workpieces to and from the pressing area, and providing a pressing surface.

3.32**rotary feeding table (see Figure 7)**

rotating table used to load and unload workpieces to and from the pressing area and providing a pressing surface.

3.33**safe tool**

tool where the access opening to the danger zone is limited (see Annex G)

3.34**safety stroke device**

device in which the closing motion is in two stages. The first phase of the closing motion is effected with low force. In the second phase the pressing is effected (see Annex I)

3.35**processing area**

area where the tool acts upon the workpiece

3.36**inlet safety device**

device installed to prevent access from feeding area into the processing area.

This device can be

- a fixed or movable guard;
- a trip device

3.37**feeding gap**

area through which material is fed to the processing area

3.38**stop and release control device**

device which shall stop the machine at any point in its cycle and return the machine to rest

3.39**recurring access**

regular access during the normal working cycle into the gap between the tools

4 A1 List of significant hazards A1

4.1 A1 This clause contains all the significant hazards, hazardous situations and events, as far as they are dealt with in this document, identified by risk assessment as significant for this type of machinery and which require action to eliminate or reduce the risk. A1

A1 4.2 A1 The significant hazards of shoe and leather presses are outlined in Table 1, 4.3 to 4.9.

NOTE Typical outlines of these machines together with explanatory sketches of danger areas are given in Figures 1 to 18. The Figures are given for information only.

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