



SLOVENSKI STANDARD
SIST EN 14656:2007/kFprA1:2009
01-november-2009

Varnost strojev - Varnostne zahteve za stiskalnice za iztiskanje jekla in nekovinskih materialov

Safety of machinery - Safety requirements for extrusion presses for steel and non-ferrous metals

Sicherheit von Maschinen - Sicherheitsanforderungen an Strangpressen für Stahl und NE-Metalle

Sécurité des machines - Exigences de sécurité pour presses à filer l'acier et les métaux non ferreux

Ta slovenski standard je istoveten z: EN 14656:2006/FprA1

ICS:

13.110	Varnost strojev	Safety of machinery
25.120.10	Kovaški stroji. Stiskalnice. Škarje	Forging equipment. Presses. Shears

SIST EN 14656:2007/kFprA1:2009 **en,de**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

FINAL DRAFT
EN 14656:2006

FprA1

August 2008

ICS 25.120.10

English Version

Safety of machinery - Safety requirements for extrusion presses for steel and non-ferrous metals

Sécurité des machines - Exigences de sécurité pour
presses à filer l'acier et les métaux non ferreux

Sicherheit von Maschinen - Sicherheitsanforderungen an
Strangpressen für Stahl und NE-Metalle

This draft amendment is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 322.

This draft amendment A1, if approved, will modify the European Standard EN 14656:2006. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

This draft amendment was established by CEN 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	3
1 Modification to the "Foreword"	4
2 Modification to Clause "2 Normative references"	4
3 Modifications to "5.1.2 Site inspections".....	7
4 Modification to "5.1.4 Safety layout"	7
5 Modifications to "5.1.6 Railings".....	8
6 Modifications to "5.1.9 Warning devices and safety signs".....	8
7 Modification to "5.1.11 Electrical equipment"	8
8 Modification to "5.1.13 Guards"	9
9 Modifications to "5.1.14 Surface temperatures".....	9
10 Modifications to "5.1.16 Hydraulic and pneumatic systems" and "5.1.17 Ergonomics"	9
11 Addition of "5.1.18 Vibrations", "5.1.19 Loss of energy" and "5.1.20 Linked equipment"	10
12 Modification to Table 1, "5.2.4.1 Mechanical hazards"	11
13 Modification to Table 1, "5.2.4.6 Ergonomic hazards" and "5.2.4.7 Noise"	12
14 Modification to "7.1 General"	12
15 Modifications to "7.4 Marking"	13
16 Modifications to "7.5.3 Instructions about transportation and installation"	13
17 Modifications to Annex B.....	13
18 Modifications to Annex C.....	14
19 Addition of Annex ZB	14
20 Modification to the Bibliography.....	15

Foreword

This document (EN 14656:2006/FprA1:2009) has been prepared by Technical Committee CEN/TC 322 "Equipment for making and shaping of metals", the secretariat of which is held by DIN.

This document is currently submitted to the Unique Acceptance Procedure.

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.

The new safety requirements as stated in this document comply with the additional relevant Essential Requirements of the new Machinery Directive 2006/42/EC complementing the existing Machinery Directive 98/37/EC.

1 Modification to the "Foreword"

Replace the 4th paragraph with:

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

2 Modification to Clause "2 Normative references"

Replace the list of normative references with:

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

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

EN 614-2, *Safety of machinery — Ergonomic design principles — Part 2: Interactions between the design of machinery and work tasks*

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

EN 842, *Safety of machinery — Visual danger signals — General requirements, design and testing*

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 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 1037:1995, *Safety of machinery — Prevention of unexpected start-up*

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

EN 1299, *Mechanical vibration and shock — Vibration isolation of machines — Information for the application of source isolation*

- EN 1591-1, *Flanges and their joints — Design rules for gasketed circular flange connections — Part 1: Calculation method*
- EN 1837, *Safety of machinery — Integral lighting of machines*
- EN 10204:2004, *Metallic products — Types of inspection documents*
- EN 12198-3, *Safety of machinery — Assessment and reduction of risks arising from radiation emitted by machinery — Part 3: Reduction of radiation by attenuation or screening*
- EN 13480-1, *Metallic industrial piping — Part 1: General*
- EN 13480-2:2002, *Metallic industrial piping — Part 2: Materials*
- EN 13480-3:2002, *Metallic industrial piping — Part 3: Design and calculation*
- EN 13480-4:2002, *Metallic industrial piping — Part 4: Fabrication and installation*
- EN 13480-5:2002, *Metallic industrial piping — Part 5: Inspection and testing*
- EN 13861, *Safety of machinery — Guidance for the application of ergonomics standards in the design of machinery*
- EN 14253, *Mechanical vibration — Measurement and calculation of occupational exposure to whole-body vibration with reference to health — Practical guidance*
- EN 50171, *Central power supply systems*
- EN 60073:2002, *Basic and safety principles for man-machine interface, marking and identification — Coding principles for indicators and actuators (IEC 60073:2002)*
- EN 60204-1:2006, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:2005, modified)*
- EN 60447, *Basic and safety principles for man-machine interface — Marking and identification — Actuating principles (IEC 60447:2004)*
- EN 60825-1, *Safety of laser products — Part 1: Equipment classification and requirements (IEC 60528-1:2007)*
- EN 61310-1, *Safety of machinery — Indication, marking and actuation — Part 1: Requirements for visual, auditory and tactile signals (IEC 61310-1:2007)*
- EN 61310-2, *Safety of machinery — Indication, marking and actuation — Part 2: Requirements for marking (IEC 61310-2:2007)*
- EN 61496-1, *Safety of machinery — Electro-sensitive protective equipment — Part 1: General requirements and tests (IEC 61496-1:2004, modified)*
- EN ISO 3744, *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)*
- EN ISO 3746, *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)*
- EN ISO 3747, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Comparison method for use in situ (ISO 3747:2000)*

EN 14656:2006/FprA1:2009 (E)

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

EN ISO 7731, *Ergonomics — Danger signals for public and work areas — Auditory danger signals (ISO 7731:2003)*

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

EN ISO 9614-2, *Acoustics — Determination of sound power levels of noise sources using sound intensity — Part 2: Measurement by scanning (ISO 9614-2:1996)*

EN ISO 11064-1, *Ergonomic design of control centres — Part 1: Principles for the design of control centres (ISO 11064-1:2000)*

EN ISO 11202, *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at a work station and at other specified positions — Survey method in situ (ISO 11202:1995)*

EN ISO 11203, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions from the sound power level (ISO 11203:1995)*

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)*

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)*

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

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

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

EN ISO 14121-1:2007, *Safety of machinery — Risk assessment — Part 1: Principles (ISO 14121-1:2007)*

EN ISO 14122-1, *Safety of machinery — Permanent means of access to machinery — Part 1: Choice of a fixed means of access between two levels (ISO 14122-1:2001)*

EN ISO 14122-2, *Safety of machinery — Permanent means of access to machinery — Part 2: Working platforms and walkways (ISO 14122-2:2001)*

EN ISO 14122-3, *Safety of machinery — Permanent means of access to machinery — Part 3: Stairs, stepladders and guard-rails (ISO 14122-3:2001)*

EN ISO 14122-4, *Safety of machinery — Permanent means of access to machinery — Part 4: Fixed ladders (ISO 14122-4:2004)*

ISO 3864-1, *Graphical symbols — Safety colours and safety signs — Part 1: Design principles for safety signs in workplaces and public areas*

ISO 7000, *Graphical symbols for use on equipment — Index and synopsis*".

Whole document:

Replace "EN 294" and "EN 294, EN 811" with "EN ISO 13857".

Replace "EN 418" with "EN ISO 13850" and "EN 418:1992" with "EN ISO 13850:2006".

Replace EN 954-1" with "EN ISO 13849-1".

Replace "EN 1050" with "EN ISO 14121-1".

3 Modifications to "5.1.2 Site inspections

Replace the text of list item b) with:

"maintenance and clearance gaps for cleaning, according to the requirements of EN ISO 13857, EN 349, EN 953 and EN 1088,".

Replace the text of list item e) with:

"health and safety at the workplace, according to the requirements of EN ISO 13857, EN 953 and".

4 Modification to "5.1.4 Safety layout"

Replace the text of 5.1.4 with:

"The manufacturer shall prepare a safety layout document of the extrusion press. The aim of the safety layout is to give information (normally by means of one or more drawings) about the physical position of safety related elements like, e.g.:

- a) isolators according to EN 60204-1;
- b) emergency stop buttons, according to the requirements of EN ISO 13850;
- c) escape routes (if necessary, e.g. for large plants);
- d) other safety-related safety marking, according to the requirements of EN ISO 7731 and EN 842;
- e) segregating devices (guards, fences, trip devices etc.) intended to prevent access to danger areas of the plant according to the requirements of EN ISO 13857, EN 953 and EN ISO 14122-2;
- f) doors and other points of access to the plant (where required with related locking and/or interlocking devices);
- g) warning devices and safety signs (warning signs for, e.g. forbidden access, X-rays);
- h) fire precautions.

The safety layout shall be included into the manufacturer's instructions for use.".