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Machine-tools safety - Safety requirements for the design and construction of work holding chucks CONSOLIDATED TEXT

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1550:1999+A1:2008 sisaldab Euroopa standardi EN 1550:1997+A1:2008 ingliskeelset teksti.	This Estonian standard EVS-EN 1550:1999+A1:2008 consists of the English text of the European standard EN 1550:1997+A1:2008.
Standard on kinnitatud Eesti Standardikeskuse 18.08.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 18.08.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 30.07.2008.	Date of Availability of the European standard text 30.07.2008.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

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Võtmesõnad: masinate ohutus, märgistamine, määratlused, ohud, ohutusmeetmed, spindlid, teave, tehnilised märkused, toote kirjeldus, tööpingid, utiliseerimine, õnnetuste vältimine

EUROPEAN STANDARD

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English Version

Machine-tools safety - Safety requirements for the design and construction of work holding chucks

Sécurité des machines-outils - Spécifications de sécurité pour la conception et la construction des mandrins porte-pièces

Sicherheit von Werkzeugmaschinen - Sicherheitsanforderungen für die Gestaltung und Konstruktion von Spannfuttern für die Werkstückaufnahme

This European Standard was approved by CEN on 9 February 1997 and includes Amendment 1 approved by CEN on 29 June 2008.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

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 Management Centre has the same status as the official versions.

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Foreword

This document (EN 1550:1997+A1:2008) has been prepared by Technical Committee CEN/TC 143 “Machine tools - 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 January 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

This document includes Amendment 1, approved by CEN on 2008-06-29.

This document supersedes EN 1550:1997.

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

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 EC Directive(s).

⟨A1⟩ For relationship with EC Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. ⟨A1⟩

Normative and informative annexes to this standard are listed in the Content list.

The European Standards produced by CEN/TC 143 are particular to machine tools and complement the relevant A and B Standards on the subject of general safety (see introduction of ⟨A1⟩ EN ISO 12100-1 ⟨A1⟩ 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, 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

This standard has been prepared to be a European standard to provide one means of conforming to the Essential Health and Safety Requirements of the Machinery Directive and associated EFTA Regulations.

The extent to which hazards are covered is indicated in the scope of this standard.

1 Scope

This European Standard sets out the requirements and/or measures to remove the hazards and limit the risk on work holding chucks which are defined in 3.1.

This European standard covers all the hazards relevant to this component.

These hazards are listed in clause 4.

The requirements of this standard concern designers, manufacturers, suppliers and importers of work holding chucks.

This standard also includes information which the manufacturer shall provide to the user.

This standard is primarily directed to components which are manufactured after the date of issue of this standard.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[A1⟩ Deleted text ⟨A1]

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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*

[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]

ISO 1940-1:1986, *Mechanical vibration – Balance quality requirements of rigid rotors – Part 1: Determination of permissible residual unbalance*

ISO 3089:1991, *Self-centring manually-operated chucks for machine tools – Acceptance test specifications (geometrical tests)*

ISO 3442:1991, *Self-centring chucks for machine tools with two-pieces jaw (tongue and groove type) – Sizes for interchangeability and acceptance test specifications*

ISO 9401:1991, *Machine tools – Jaw mountings on power chucks*

prEN 1005-2:1993, *Safety of machinery – Part 2: Human physical performance – Manual handling of machinery and components parts of machinery*

3 Definitions

For the purposes of this European Standard, the following definitions apply:

3.1
work holding chuck
clamping device with movable jaws to hold a workpiece designated herein after by "chuck"

NOTE Some chucks may be equipped with grooves or slots

3.2
manually-operated chuck
chuck in which workpieces are clamped with the aid of manual energy (e.g. by means of a key)

3.3
power-operated chuck
chuck in which workpieces are clamped with the aid of pneumatic, hydraulic or electric energy

3.4
centrifugally compensated chuck
chuck in which there is a system which permits compensation of the loss of clamping force due to centrifugal force

3.5
base jaw
radial moving part of the chuck which receives the top jaw

3.6
top jaw
element mounted on a base jaw for the clamping of workpieces

3.7
clamping force
algebric sum of the individual radial forces applied by the chuck jaws on the workpiece

3.8
static clamping force
clamping force of the chuck before the chuck has been rotated

3.9
maximum static clamping force
maximum clamping force obtained when the maximum permissible input force (or input torque) is applied to a particular design