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Safety of machinery - Guards - General requirements for the
design and construction of fixed and movable guards
CONSOLIDATED TEXT

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 953:1999+A1:2009 sisaldab Euroopa standardi EN 953:1997+A1:2009 ingliskeelset teksti.

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English Version

Safety of machinery - Guards - General requirements for the design and construction of fixed and movable guards

Sécurité des machines - Protecteurs - Prescriptions générales pour la conception et la construction des protecteurs fixes et mobiles

Sicherheit von Maschinen - Trennende Schutzeinrichtungen - Allgemeine Anforderungen an Gestaltung und Bau von feststehenden und beweglichen trennenden Schutzeinrichtungen

This European Standard was approved by CEN on 26 March 1997 and includes Amendment 1 approved by CEN on 8 February 2009.

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Foreword

This document (EN 953:1997+A1:2009) has been prepared by Technical Committee CEN/TC 114 "Safety of machinery", the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by September 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

This document includes Amendment 1, approved by CEN on 2009-02-08.

This European Standard supersedes EN 953:1997.

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 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.

Introduction

This European Standard specifies general principles for the design and construction of guards, both fixed and movable. It is intended for use by manufacturers, designers, standards makers and other interested parties.

■^{A1} This document is a type B standard as stated in EN ISO 12100-1.

The provisions of this document can be supplemented or modified by a type C standard.

NOTE For machines which are covered by the scope of a type C standard and which have been designed and built according to the provisions of that standard, the provisions of that type C standard take precedence over the provisions of this type B standard. ■^{A1}

In accordance with the requirements laid down in ■^{A1} EN ISO 12100-1 ■^{A1} and ■^{A1} EN ISO 12100-2 ■^{A1} the machine designer shall identify the hazards present at a machine, carry out a risk assessment and reduce risk by design before considering safeguarding techniques.

1 Scope

This European Standard specifies general requirements for the design and construction of guards provided primarily to protect persons from mechanical hazards.

The standard applies primarily to machines which are manufactured after the date of issue of this standard.

Attention is drawn to the use of guards to minimise exposure to non-mechanical hazards.

The requirements are applicable if fixed and movable guards are used. The standard does not cover those parts of guards which actuate interlocking devices. These are covered in EN 1088.

This standard does not provide requirements for special systems relating specifically to mobility and ability to lift loads like rollover protective structures (ROPS) and falling-object protective structures (FOPS).

2 Normative references

■^{A1} 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. ■^{A1}

■^{A1} *deleted text* ■^{A1}

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

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*

■^{A1} *deleted text* ■^{A1}

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

EN 1127-1, *Explosive atmospheres – Explosion prevention and protection – Part 1: Basic concepts and methodology*

EN 1672-2, *Food processing machinery – Basic concepts – Part 2: Hygiene requirements*

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

^{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 13857, *Safety of machinery – Safety distances to prevent hazard zones being reached by upper and lower limbs* (ISO 13857:2008) ^{A1}

^{A1} EN ISO 14121-1, *Safety of machinery – Risk assessment – Part 1: Principles* (ISO 14121-1:2007) ^{A1}

Additional information is given in ^{A1} the Bibliography ^{A1}.