

Masinate ohutus. Riskide hindamine. Osa 1: Põhimõtted

Safety of machinery - Risk assessment - Part 1:
Principles

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 14121-1:2007 sisaldab Euroopa standardi EN ISO 14121-1:2007 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 30.10.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 14121-1:2007 consists of the English text of the European standard EN ISO 14121-1:2007.</p> <p>This document is endorsed on 30.10.2007 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This part of ISO 14121 establishes general principles intended to be used to meet the risk reduction objectives established in ISO 12100-1:2003, Clause 5. These principles of risk assessment bring together knowledge and experience of the design, use, incidents, accidents and harm related to machinery in order to assess the risks posed during the relevant phases of the life cycle of a machine. This part of ISO 14121 provides guidance on the information that will be required to enable risk assessment to be carried out. Procedures are described for identifying hazards and estimating and evaluating risk. It also gives guidance on the making of decisions relating to the safety of machinery and on the type of documentation required to verify the risk assessment carried out. It is not applicable to risks posed to domestic animals, property or the environment.</p>	<p>Scope:</p> <p>This part of ISO 14121 establishes general principles intended to be used to meet the risk reduction objectives established in ISO 12100-1:2003, Clause 5. These principles of risk assessment bring together knowledge and experience of the design, use, incidents, accidents and harm related to machinery in order to assess the risks posed during the relevant phases of the life cycle of a machine. This part of ISO 14121 provides guidance on the information that will be required to enable risk assessment to be carried out. Procedures are described for identifying hazards and estimating and evaluating risk. It also gives guidance on the making of decisions relating to the safety of machinery and on the type of documentation required to verify the risk assessment carried out. It is not applicable to risks posed to domestic animals, property or the environment.</p>
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ICS 13.110

Võtmesõnad:

English Version

Safety of machinery - Risk assessment - Part 1: Principles (ISO 14121-1:2007)

Sécurité des machines - Appréciation du risque - Partie 1:
Principes (ISO 14121-1:2007)

Sicherheit von Maschinen - Risikobeurteilung - Teil 1:
Leitsätze (ISO 14121-1:2007)

This European Standard was approved by CEN on 4 August 2007.

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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 ISO 14121-1:2007) has been prepared by Technical Committee ISO/TC 199 "Safety of machinery" in collaboration with 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 March 2008, and conflicting national standards shall be withdrawn at the latest by March 2008.

This document supersedes EN 1050:1996.

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 EC Directive(s).

For relationship with EC Directive(s), see informative Annex ZA and ZB, which is an integral part of this document.

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 the United Kingdom.

Endorsement notice

The text of ISO 14121-1:2007 has been approved by CEN as a EN ISO 14121-1:2007 without any modification.

Annex ZA (informative)

Relationship between this International Standard and the Essential Requirements of EU Directive 98/37/EC, amended by Directive 98/79/EC

This International Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive 98/37/EC, Machinery, amended by Directive 98/79/EC.

Once this standard is cited in the Official Journal of the European Communities under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard confers, within the limits of the scope of this standard, a presumption of conformity with the relevant Essential Requirements of that Directive and associated EFTA regulations.

WARNING — Other requirements and other EC Directives may be applicable to the product(s) falling within the scope of this standard.

Annex ZB (informative)

Relationship between this International Standard and the Essential Requirements of EU Directive 2006/42/EC

This International Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide one means of conforming to Essential Requirements of the New Approach Directive 2006/42/EC on machinery.

Once this standard is cited in the Official Journal of the European Communities under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard confers, within the limits of the scope of this standard, a presumption of conformity with the relevant Essential Requirements of that Directive and associated EFTA regulations.

WARNING: Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

**Safety of machinery — Risk
assessment —**

**Part 1:
Principles**

*Sécurité des machines — Appréciation du risque —
Partie 1: Principes*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 14121-1 was prepared by Technical Committee ISO/TC 199, *Safety of machinery*.

This first edition of ISO 14121-1 cancels and replaces ISO 14121:1999, of which it constitutes a technical revision.

ISO 14121 consists of the following parts, under the general title *Safety of machinery — Risk assessment*:

- *Part 1: Principles*
- *Part 2: Practical guidance and examples of methods* [Technical Report]

Introduction

The structure of safety standards in the field of machinery is as follows.

- a) Type-A standards (basic standards) give basic concepts, principles for design, and general aspects that can be applied to machinery.
- b) Type-B standards (generic safety standards) deal with one or more safety aspect(s) or one or more type(s) of safeguards that can be used across a wide range of machinery:
 - type-B1 standards on particular safety aspects (e.g. safety distances, surface temperature, noise);
 - type-B2 standards on safeguards (e.g. two-hands controls, interlocking devices, pressure sensitive devices, guards).
- c) Type-C standards (machine safety standards) deal with detailed safety requirements for a particular machine or group of machines.

This part of ISO 14121 is a type-A standard as stated in ISO 12100-1.

When provisions of a type-C standard are different from those which are stated in type-A or type-B standards, the provisions of the 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 the type-C standard.

The purpose of this type-A standard is to describe principles for a consistent systematic procedure for risk assessment as stated in ISO 12100-1:2003, Clause 5.

This part of ISO 14121 gives guidance for decisions related to the design of machinery and will assist in the preparation of consistent and appropriate type-B and type-C standards, so that machines can be produced that are safe for their intended use in accordance with the methodology given in ISO 12100.

Annex A gives, in separate tables, examples of hazards, hazardous situations and hazardous events, so as to clarify these concepts and assist the designer in the process of hazard identification.

The practical use of a number of methods for each stage of risk assessment is described ISO/TR 14121-2, which also gives some guidance on how the selection of protective measures (in accordance with ISO 12100) can reduce the different elements of risk in relation to Figure 2 of this part of ISO 14121.

This part of ISO 14121 can be incorporated in training courses and manuals where appropriate to give basic instruction on risk assessment.

Safety of machinery — Risk assessment —

Part 1: Principles

1 Scope

This part of ISO 14121 establishes general principles intended to be used to meet the risk reduction objectives established in ISO 12100-1:2003, Clause 5. These principles of risk assessment bring together knowledge and experience of the design, use, incidents, accidents and harm related to machinery in order to assess the risks posed during the relevant phases of the life cycle of a machine.

This part of ISO 14121 provides guidance on the information that will be required to enable risk assessment to be carried out. Procedures are described for identifying hazards and estimating and evaluating risk.

It also gives guidance on the making of decisions relating to the safety of machinery and on the type of documentation required to verify the risk assessment carried out.

It is not applicable to risks posed to domestic animals, property or the environment.

2 Normative references

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.

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

ISO 12100-2:2003, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles and specifications*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

harm

physical injury or damage to health

[ISO 12100-1:2003, definition 3.5]