

**Masinate ohutus. Lasertöötlusseadmed. Osa 1:  
Üldised ohutusnõuded**

Safety of machinery - Laser processing machines -  
Part 1: General safety requirements

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 11553-1:2009 sisaldab Euroopa standardi EN ISO 11553-1:2008 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 29.01.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 26.11.2008.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN ISO 11553-1:2009 consists of the English text of the European standard EN ISO 11553-1:2008.

This standard is ratified with the order of Estonian Centre for Standardisation dated 29.01.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 26.11.2008.

The standard is available from Estonian standardisation organisation.

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**Võtmesõnad:**

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Aru 10 Tallinn 10317 Eesti; [www.evs.ee](http://www.evs.ee); Telefon: 605 5050; E-post: [info@evs.ee](mailto:info@evs.ee)

English Version

Safety of machinery - Laser processing machines - Part 1:  
General safety requirements (ISO 11553-1:2005)

Sécurité des machines - Machines à laser - Partie 1:  
Prescriptions générales de sécurité (ISO 11553-1:2005)

Sicherheit von Maschinen - Laserbearbeitungsmaschinen -  
Teil 1: Allgemeine Sicherheitsanforderungen (ISO 11553-  
1:2005)

This European Standard was approved by CEN on 7 November 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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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## Foreword

The text of ISO 11553-1:2005 has been prepared by Technical Committee ISO/TC 172 "Optics and optical instruments" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 11553-1:2008 by Technical Committee CEN/TC 123 "Lasers and photonics" 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 May 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

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 supersedes EN ISO 11553-1:2005.

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 Directives.

For relationship with EC Directives, see informative Annex ZA and Annex ZB, which are 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 11553-1:2005 has been approved by CEN as a EN ISO 11553-1:2008 without any modification.

**Annex ZA**  
**(informative)**

**Clauses of this European Standard addressing essential requirements or other provisions of EU directives 98/37/EC**

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 requirement 1.5.12 of the following EU Directives: Machinery safety Directive 98/37/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 corresponding Essential Requirements of that Directive and associated EFTA regulations.

**WARNING:** Other requirements and other EU Directives may be applicable to the products falling within the scope of this International standard.

**Annex ZB**  
**(informative)**

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

This European 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 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, except for 1.7.3 2<sup>nd</sup> indent and 1.4.2.1 2<sup>nd</sup> paragraph, 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.

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## Introduction

The Machinery Safety Directive issued by the Council of the EEC outlines essential and mandatory requirements that must be met in order to ensure that machinery is safe. In response, CEN/CENELEC initiated a programme to produce safety standards for machines and their applications. This part of ISO 11553 is one in that series.

It has been prepared as a harmonized standard to provide a means of conforming with the essential safety requirements of the Machinery Directive and associated EFTA Regulations.

This document is a type B standard as stated in ISO 12100-1. The provisions of this document may be supplemented or modified by a type C standard.

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

It is applicable to machines using laser radiation to process materials. The purpose of this part of ISO 11553 is to prevent injuries to persons by

- listing potential hazards generated by machines containing lasers,
- specifying safety measures and verifications necessary for reducing the risk caused by specific hazardous conditions,
- providing references to pertinent standards, and
- specifying the information which is to be supplied to the users so that they can establish proper procedures and precautions.



# Safety of machinery — Laser processing machines —

## Part 1: General safety requirements

### 1 Scope

This part of ISO 11553 describes hazards generated by laser processing machines, as defined in 3.2, and specifies the safety requirements relating to radiation hazards and hazards generated by materials and substances. It also specifies the information to be supplied by the manufacturers of such equipment.

Requirements dealing with noise as a hazard from laser processing machines are not included in this part of ISO 11553. They will be included in a subsequent amendment.

This part of ISO 11553 is not applicable to laser products, or equipment containing such products, which are manufactured solely and expressly for the following applications:

- photolithography;
- stereolithography;
- holography;
- medical applications (per IEC 60601-2-22);
- data storage.

### 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 3864:1984, *Safety colours and safety signs*

ISO 11252:2004, *Lasers and laser-related equipment — Laser device — Minimum requirements for documentation*

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*

ISO 13849-1:1999, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*

ISO 14118:2000, *Safety of machinery — Prevention of unexpected start-up*