

ISO 11553-2**Safety of machinery — Laser
processing machines —****Part 2:
Safety requirements for hand-held
or hand-operated laser processing
machines**

Sécurité des machines — Machines à laser —

*Partie 2: Exigences de sécurité pour machines à laser portatives
ou actionnées manuellement*

**Second edition
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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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This document was prepared by Technical Committee ISO/TC 172, *Optics and photonics*, Subcommittee SC 9, *Laser and electro-optical systems*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 123, *Lasers and photonics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement) and with IEC/TC 76, *Optical radiation safety and laser equipment*.

This second edition cancels and replaces the first edition (ISO 11553-2:2007), which has been technically revised.

The main changes are as follows:

- a) The document was changed to type-C standard;
- b) added dates to references in the whole document and main body of the text;
- c) several terms and definitions were modified or newly added;
- d) the covered hazards as well as the requirements concerning the hazards were added in more detail;
- e) [Clause 4](#) was rewritten with new structure, the [Table 1](#) was newly added, serving to list the significant hazards and hazardous situations;
- f) [Table 2](#) was newly added in [Clause 4](#), serving to list the further hazards and hazardous situations;
- g) [Clause 5](#) was rewritten with new structure. [Table 3](#) was newly added in [Clause 5](#) to describe the workplace safety for HLM;
- h) Several subclauses of [Clause 5](#) were rewritten with more detail;
- i) [Table 3](#) was modified in [Clause 6](#).
- j) Several subclauses of [Clause 7](#) were added with more information;
- k) several subclause headings were modified and several technical requirements were amended;

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m) previous [Annex B](#) was deleted, and example of risk assessment for HLM was added as [Annex B](#);

n) new [Annex C](#), [Annex D](#), [Annex E](#), [Annex F](#), [Annex G](#) and [Annex H](#) were added.

A list of all parts in the ISO 11553 series can be found on the ISO website/IEC website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

This document is a type-C standard as stated in ISO 12100:2010.

This document is of relevance particularly for the following stakeholder groups representing the market players with regards to machinery safety:

- a) hand-held or hand-operated laser processing machines (HLMs) manufacturers (small, medium and large enterprises); including manufacturers of sub/part machines such as devices or devices assembly related to laser radiation, as well as system integrators (small, medium, and large enterprises);

NOTE Devices or device assemblies include, but are not limited to, those for: guiding; shaping, delivery, protective, locking, control, enabling, limiting, impeding, switching, exhaust, stop, loading/feeding, scanning and warning devices.

- b) health and safety bodies (regulators, accident prevention organizations, market surveillance, etc.).

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

- c) machine users/employers (small, medium and large enterprises);
- d) machine users/employees (e.g. trade unions, organizations for people with special needs);
- e) service providers, e.g. for maintenance (small, medium and large enterprise);
- f) consumers (in case of machinery intended for use by consumers);
- g) bystanders.

The above-mentioned stakeholder groups have been given the possibility to participate in the drafting process of this document.

The machinery concerned and the extent to which hazards, hazardous situations or hazardous events are covered are indicated in the Scope of this document.

When requirements of this type-C standard are different from those which are stated in type-A or type-B standards, the requirements of this type-C standard take precedence over the requirements of the other standards for machines that have been designed and built according to the requirements of this type-C standard.

The purpose of this document is to prevent serious and irreversible injuries to persons and damage to property

- by listing potential hazards generated by hand-held or hand-operated laser processing machines;
- by describing the risk assessment procedure for all relevant hazards;
- by specifying safety measures and verification procedures necessary for reducing the risk caused by specific hazardous conditions;
- by providing references to pertinent standards;
- by specifying the information which is to be supplied to the user so that they can establish proper procedures and precautions at the workplace.