
**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*



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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.

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The committee responsible for this document is ISO/TC 199, *Safety of machinery*.

This second edition cancels and replaces the first edition (ISO 14120:2002), which has been technically revised. The main changes from the previous edition are as follows.

- Definitions have been brought into line with ISO 12100. The figures showing examples of guards have been updated where appropriate.
- [Clause 5](#) has been updated with new references to ISO 13855 and ISO 14119. Requirements on the removal of guards have been amended. [Subclause 5.3.9](#) describes requirements for the removal of fixed guards only with a tool. In addition, there is a requirement that fixed guards be designed to prevent easy removal. The subclause about impact and ejection resistance ([5.4](#)) has been strengthened. Subclauses on Climbing ([5.18](#)), Retained fastenings ([5.19](#)), Warning signs ([5.21](#)), Colour ([5.22](#)) and Appearance ([5.23](#)) have been added.
- [Clause 6](#) has been amended and updated to better include cover combinations of different guards or of guards with other devices. Selection of guards according to the number and size of the hazards ([6.3](#)) has been changed and updated. [Subclause 6.4.4.2](#), where access is required during the working cycle, has been changed and updated.
- Clauses on verification and validation have been introduced ([Clause 7](#)). This includes a table which outlines the safety requirements and/or measures by subclause.
- The text of [Clause 8](#) has been updated, including requirements for procedures for removal of guards (use of a tool and the safe working procedure). The subclause for removal of guards ([8.5](#)) has changed.
- Two new informative annexes on test methods, one on projectile tests and the other on impact tests, have been added.
- The Bibliography, which contains a list of International and European Standards published or in preparation that can be helpful in the design and commissioning of guards, has been updated.