

# SVENSK STANDARD

## SS-EN ISO 12100-2/A1:2009

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### **Maskinsäkerhet – Grundläggande begrepp, allmänna konstruktionsprinciper – Del 2: Tekniska principer – Tillägg 1 (ISO 12100-2:2003/ Amd 1:2009)**

### **Safety of machinery – Basic concepts, general principles for design – Part 2: Technical principles – Amendment 1 (ISO 12100-2:2003/ Amd 1:2009)**

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Europastandarden EN ISO 12100-2:2003/A1:2009 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN ISO 12100-2:2003/A1:2009.

The European Standard EN ISO 12100-2:2003/A1:2009 has the status of a Swedish Standard. This document contains the official English version of EN ISO 12100-2:2003/A1:2009.

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EUROPEAN STANDARD

**EN ISO 12100-2:2003/A1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2009

ICS 13.110

English Version

**Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles - Amendment 1 (ISO 12100-2:2003/Amd 1:2009)**

Sécurité des machines - Notions fondamentales, principes généraux de conception - Partie 2: Principes techniques - Amendement 1 (ISO 12100-2:2003/Amd 1:2009)

Sicherheit von Maschinen - Grundbegriffe, allgemeine Gestaltungsleitsätze - Teil 2: Technische Leitsätze - Änderung 1 (ISO 12100-2:2003/Amd 1:2009)

This amendment A1 modifies the European Standard EN ISO 12100-2:2003; it was approved by CEN on 13 May 2009.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant 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 amendment 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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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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## SS-EN ISO 12100-2/A1:2009 (E)

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## **Foreword**

This document (EN ISO 12100-2:2003/A1:2009) 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 Amendment to the European Standard EN ISO 12100:2003 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 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 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 Annexes ZA, ZB and ZC, which are integral parts 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 12100-2:2003/Amd 1:2009 has been approved by CEN as a EN ISO 12100-2:2003/A1:2009 without any modification.





# Safety of machinery — Basic concepts, general principles for design —

## Part 2: Technical principles

### AMENDMENT 1

Conformant with ISO Guide 78<sup>1)</sup>, this Amendment supports regional technical regulations for machinery safety according to the principles of UNECE Recommendation L<sup>2)</sup>. It comprises minor technical changes to the existing International Standard, aimed at ensuring compliance of the current edition of ISO 12100-2 with the relevant Essential Requirements of New Approach Directive 2006/42/EC on machinery, which replaces New Approach Directive 98/37/EC and enters into force on 2009-12-29 without a transition period.

**IMPORTANT — This Amendment does not specify any *technical* change not directly required as a consequence of the new European legislation.**

*Page 2, 4.2.1*

Replace the references between parentheses in the third-from-last main dashed point with the following:

“(see ISO 13854 and ISO 13857)”

*Page 3, 4.4*

Replace the second dashed point under a) with

“— “intrinsically safe” electrical equipment (see IEC 60079-11);”

*Page 11, 4.11.9*

Insert a new dashed point above the Note:

“— prevents any operation of hazardous functions by voluntary or involuntary action on the machine’s sensors.”

(Replace the full stop in the preceding point with a semi-colon to signify continuance of the list.)

*Page 12, 4.12.1*

Update the reference to ISO 13849-1 in Note 1 by replacing it with “ISO 13849-1:2006, 6.2.4”.

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1) ISO Guide 78:2008, *Safety of machinery — Rules for drafting and presentation of safety standards*

2) United Nations Economic Commission for Europe (UNECE), International Model for Technical Harmonization

Page 19, 5.3.1

Replace the fourth dashed point in the list with

“— be located at an adequate distance from the danger zone (see ISO 13855 and ISO 13857);”

Replace the last paragraph of the subclause with

“For openings in the guard, see ISO 13857.”

Page 20, 5.3.2.4

Replace the phrase “They shall”, beginning the second paragraph, with

“Manually adjustable guards shall”

Page 26, 6.4

Replace the second dashed point under b) with

“— written indications (e.g. authorized representative of the manufacturer, designation of the machinery, year of construction, intended use in potentially explosive atmospheres);”

Pages 27 and 28, 6.5.1

Replace the fourth dashed point under c) with the following:

“— data on noise and vibration generated by the machine, and on radiation, gases, vapours and dust emitted by it, with reference to the measuring methods (including measurement uncertainties) used;”

Insert a new dashed point between the first and second points under e):

“— specifications of the spare parts to be used, when these affect the health and safety of operating;”

Insert a new first dashed point under g):

“— operating method to be followed in the event of accident or breakdown;”

Pages 30 to 32, Bibliography

Replace the corresponding bibliographical references with the following ones:

[8] EN 61029 (all parts), *Safety of transportable motor-operated electric tools*

[9] IEC 60079-11, *Explosive atmospheres — Part 11: Equipment protection by intrinsic safety “i”*

....

[12] IEC 60745-1, *Hand-held electric motor-operated tools — Safety — Part 1: General requirements*

....

[21] IEC 62061, *Safety of machinery — Functional safety of safety-related electrical, electronic and programmable electronic control systems*

....

- [33] ISO 13849-1:2006, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*
- [34] ISO 13850, *Safety of machinery — Emergency stop — Principles for design*
- ....
- [36] ISO 13854, *Safety of machinery — Minimum gaps to avoid crushing of parts of the human body* (EN 349)
- [37] ISO 13855, *Safety of machinery — Positioning of protective equipment with respect to approach speeds of parts of the human body* (EN 999)
- [38] ISO 13856-1, *Safety of machinery — Pressure-sensitive protective devices — Part 1: General principles for design and testing of pressure-sensitive mats and pressure-sensitive floors* (EN 1760-1)
- [39] ISO 13857, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs*
- [40] ISO 14118:2000, *Safety of machinery — Prevention of unexpected start-up* (EN 1037:1995+A1:2008)
- [41] ISO 14119:1998, *Safety of machinery — Interlocking devices associated with guards — Principles for design and selection* (EN 1088:1995)
- [42] ISO 14120:2002, *Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards* (EN 953:1997)
- [43] ISO 14122-1, *Safety of machinery — Permanent means of access to machinery — Part 1: Choice of fixed means of access between two levels* (EN ISO 14122-1)
- [44] ISO 14122-2, *Safety of machinery — Permanent means of access to machinery — Part 2: Working platforms and walkways* (EN ISO 14122-2)
- [45] ISO 14122-3, *Safety of machinery — Permanent means of access to machinery — Part 3: Stairs, stepladders and guard-rails* (EN ISO 14122-3)
- [46] ISO 14122-4, *Safety of machinery — Permanent means of access to machinery — Part 4: Fixed ladders* (EN ISO 14122-4)

Renumber References [48] to [50] as [47] to [49].