TECHNICAL REPORT

ISO/TR 22100-1

Second edition
2021-01

Safety of machinery — Relationship with ISO 12100 —

Part 1: How ISO 12100 relates to type-B and type-C standards

Sécurité des machines — Relation avec l'ISO 12100 —

Partie 1: Relation entre l'ISO 12100 et les normes de type B et type C

Reference number
ISO/TR 22100-1:2021(E)

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Published in Switzerland

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Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 General structure of the system of machinery safety standards **2**
5 System of type-A, type-B and type-C standards **2**
5.1 Type-A standard (ISO 12100) 2
5.2 Type-B standards 6
5.2.1 General 6
5.2.2 Type-B1 standards 6
5.2.3 Type-B2 standards 6
5.3 Type-C standards 6
5.3.1 General 6
5.3.2 Content provided by type-C standards 7
5.3.3 Deviations in a type-C standard from a type-B standard 7
6 Practical application of ISO 12100, type-B and type-C standards in order to design a machine to achieve a level of tolerable risk by adequate risk reduction **7**
6.1 General 7
6.2 Application of an appropriate type-C standard 8
6.2.1 General 8
6.2.2 Steps to be followed 9
7 Navigating appropriate type-B machinery safety standards **10**
Annex A (informative) **Iterative process of risk assessment and risk reduction** **12**
Annex B (informative) **Types of ISO documents** **13**
Bibliography **14**

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www. iso. org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www. iso. org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www. iso. org/iso/foreword. html.

This document was prepared by Technical Committee ISO/TC 199, *Safety of machinery*.

This second edition cancels and replaces the first edition (ISO/TR 22100-1:2015), which has been technically revised.

The main changes compared to the previous edition are as follows.

— the wording "..., hazardous situation(s) or hazardous event(s)" has been deleted from 5.3.2 (NOTE and last paragraph) and 6.2.2 (subheading "Step 4B"and the following two paragraphs as well as Step 4C, fifth paragraph), eight times, in total;

— in 6.2.1, second paragraph, second sentence "this part of ISO 22100" has been corrected to "that type-C standard";

— the sentence given in 6.2.2, Step 4C, as paragraph below the Note has also been inserted as new penultimate paragraph to Step 4B.

A list of all parts in the ISO/TR 22100 series can be found on the ISO 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.

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Introduction

This document is written to assist the designer/manufacturer of machinery and related components in understanding and navigating the different types of ISO machinery safety standards. It presents the different ISO deliverables (see Annex B) and explains the type-A, type-B and type-C structure of machinery safety standards and their interrelationship with regard to the practical design of machinery subjected to adequate risk reduction to achieve tolerable risk.

This document can be helpful for standard writing committees (type-B and type-C), too. However, it does not provide specification of the general content that is expected to be included in the different types of machinery safety standards. This specification is given in ISO Guide 78.

This document includes a visual representation of many ISO machinery safety standards to assist in improving understanding of the interrelationships and linkages between these documents.

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Safety of machinery — Relationship with ISO 12100 —

Part 1:
How ISO 12100 relates to type-B and type-C standards

1 Scope

This document provides assistance to the designer/manufacturer of machinery and related components as to how the system of existing type-A, type-B and type-C machinery safety standards should be applied in order to design a machine to achieve a level of tolerable risk by adequate risk reduction.

This document explains the general principles of ISO 12100 and how this type-A standard is used for practical cases in conjunction with type-B and type-C machinery safety standards.

This document provides assistance to standards-writing committees on how ISO 12100 and type-B and type-C standards relate and explains their function in the risk assessment and risk reduction process according to ISO 12100.

This document includes an overview of existing categories of type-B standards to assist standards readers and writers to navigate the many standards.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12100 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
adequate risk reduction
risk reduction that is at least in accordance with legal requirements, taking into consideration the current state of the art

[SOURCE: ISO 12100:2010, 3.18, modified — Note 1 to entry has been removed.]

3.2
tolerable risk
level of risk that is accepted in a given context based on the current values of society

Note 1 to entry: The terms “acceptable risk” and “tolerable risk” are considered to be synonymous.

[SOURCE: ISO/IEC Guide 51:2014, 3.15, modified — In Note 1 to entry, the words “For the purpose of this Guide” have been deleted.]

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