TECHNICAL REPORT

# ISO/TR 12100-2

First edition
1992-12-15

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

## Part 2 :
Technical principles and specifications

*Sécurité des machines — Notions fondamentales, principes généraux de conception —*
*Partie 2 : Principes et spécifications techniques*

Reference number
ISO/TR 12100-2 : 1992 (E)

## 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 main task of ISO technical committees is to prepare International Standards. In exceptional circumstances a technical committee may propose the publication of a Technical Report of one of the following types:

— type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;

— type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;

— type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.



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In its resolution 6 (November 1991), Technical Committee ISO/TC 199, *Safety of machinery*, endorsed the contents of European Standard EN 292-2 : 1991 prepared by Technical Committee CEN/TC 114, *Safety of machinery*. It recommended further that this European Standard be published as an ISO Technical Report of type 2 and be implemented with the highest priority throughout ISO/IEC and publicized as widely as possible.

This document is being issued in the type 2 Technical Report series of publications (according to part 1 of the ISO/IEC Directives) as a "prospective standard for provisional application" in the field of safety of machinery because there is an urgent need for guidance on how standards in this field should be used to meet an identified need.

This document is not to be regarded as an "International Standard". It is proposed for provisional application so that information and experience of its use in practice may be gathered. Comments on the content of this document should be sent to the ISO Central Secretariat.

A review of this type 2 Technical Report will be carried out not later than three years after its publication with the options of: extension for another three years; conversion into an International Standard; or withdrawal.

ISO/TR 12100 consists of the following parts, under the general title *Safety of machinery — Basic concepts, general principles for design*:

— *Part 1: Basic terminology, methodology*

— *Part 2: Technical principles and specifications*

Annexes A, B, C and D of this part of ISO/TR 12100 are for information only.

**TECHNICAL REPORT** **ISO/TR 12100-2 : 1992 (E)**

EUROPEAN STANDARD EN 292-2:1991

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Descriptors: Safety of machines, design, accident prevention, generalities, specifications, human factors engineering, I safety, control devices, safety devices, information, indexes (documentation)

English version

# Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles and specifications

Sécurité des machines - Notions fondamentales, principes généraux de conception - Partie 2: Principes techniques et spécifications

Sicherheit von Maschinen - Grundbegriffe, allgemeine Gestaltungsleitsätze - Teil 2: Technische Leitsätze und Spezifikationen

This European Standard was approved by CEN on 1991-09-20
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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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## Foreword

This standard has been prepared by CEN/TC 114/WG 1 "Basic concepts".

Part 1 of this standard deals with "Basic terminology, methodology" (see clause 0 "Introduction" for more detailed explanations).

NOTE : At several places EN 292-2 refers to specific clauses of EN 60 204-1:1985 "Electrical equipment of industrial machines, Part 1 - General requirements".

It is important to note that this electrical standard has undergone a major revision and that a draft prEN 60 204-1 "Safety of machinery - Electrical equipment of machines, Part 1 - General requirements" should be submitted to the Unique Acceptance Procedure (UAP) in 1991. It is therefore likely that, by the time EN 292 is in use, there will be a new version of EN 60 204-1 available which should be used.

To avoid confusion in the interim period, the table below indicates the subclauses of EN 292-2 which refer to EN 60 204-1:1985 (column 1) and the corresponding subclauses of EN 60 204-1:1985 (column 2) and prEN 60 204-1:1991 (column 3).

**Table 1**

| EN 292-2, § : | EN 60 204-1:1985, § : | prEN 60 204-1:1991, § : |
|---|---|---|
| 3.4 | 5.1.2.3 | 6.4 |
| 3.7.11 | 5.4 to 5.8, 6, 7, 8 | 7.5 and 8 to 13 |
| 3.9 | 5.1<br>5.2<br>5.3 | 6<br>7.2<br>7.3 |
| 5.4 | 3.1 | 18 |
| 5.5.1.c) | 3.2 | 19 |
| 6.1.1 | 5.6.1 | 9.2.5.4 and 10.7 |
| 6.2.2 | 5.6.2 | 5.3 |

## 0 Introduction

This standard has been produced to assist designers, manufacturers and other interested bodies to interpret the essential safety requirements in order to achieve conformity with European Legislation on machinery safety.

It is the first in a programme of standards produced by CEN/CENELEC u. der mandates from CEC and EFTA. This programme has been divided into several categories to avoid duplication and to develop a logic which will enable rapid production of standards and easy cross-reference between standards.